ENVIRONMENTAL INVESTIGATION

OF FILL MATERIAL

at the

Rahway Arch (old Cytec Landfill) Site

Carteret, New Jersey

Final Report Issued: October 17, 2011

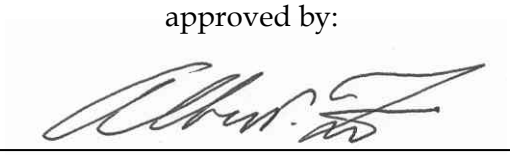
prepared for:

Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

prepared by:

EastStar Environmental Group, Inc.
10632 Little Patuxent Parkway
Suite 106
Columbia, Maryland 21042

approved by:



Albert P. Free, P.E. CSP
President

Project No. I022

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1. INTRODUCTION

Soil Safe Incorporated is investigating the potential to remediate the old Cytec Landfill site located in Carteret, New Jersey by capping the site with engineered fill. The old Cytec Landfill site, also referred to as the Rahway Arch site, is a former unlined and uncapped industrial waste landfill located on the Rahway River. In the historic reports prepared regarding this property it is also referred to as the Carteret Landfill and the Linden Landfill. The site is located on Block 9.03, Lot 21; Block 10, Lots 8-10 and 12-21 and Block 11.01, Lots 8, 10-14 and 28. It is approximate 0.25 miles east of the New Jersey Turnpike at interchange 12. The general location of the site is shown in Figure 1.1, and the specific site location is shown in Figure 1.2

To further evaluate the potential for remediating this site, Soil Safe tasked EastStar with performing an environmental investigation of the fill material that was used to form and maintain the berms, provide operating areas for operation of the landfill and operating areas for use of the site after the landfill activities were completed. Because this fill material was placed for a specific purpose as part of the operations and maintenance of the landfill, it may not qualify as historic fill, as defined by the Tech Rule. However, since the sources of the fill material are unknown and the material had not previously been characterized, the fill is likely characteristically similar to "historic fill". The purpose of this investigation was to determine if this presumed "historic fill" material contains elevated concentrations of organic and inorganic contaminants.

As part of the investigation, EastStar also located the existing monitoring wells on the site. The site contains 16 monitoring wells in eight two well clusters. Well tag information (where available), well dimension, depth to groundwater and total depth of the well were recorded for each well.

EastStar performed the fill investigation on March 30 and 31, 2011. Contained in this report are the results of this fill investigation. These results include details regarding the site and the site investigation, along with the results. Conclusions and recommendations are drawn, based upon these results. The sampling plan, analytical laboratory reports, observations and photographs are included as appendices.

This report has been prepared for the benefit of, and may be relied upon by; Soil Safe Incorporated, its employees and affiliates, and its counsel and consultants.

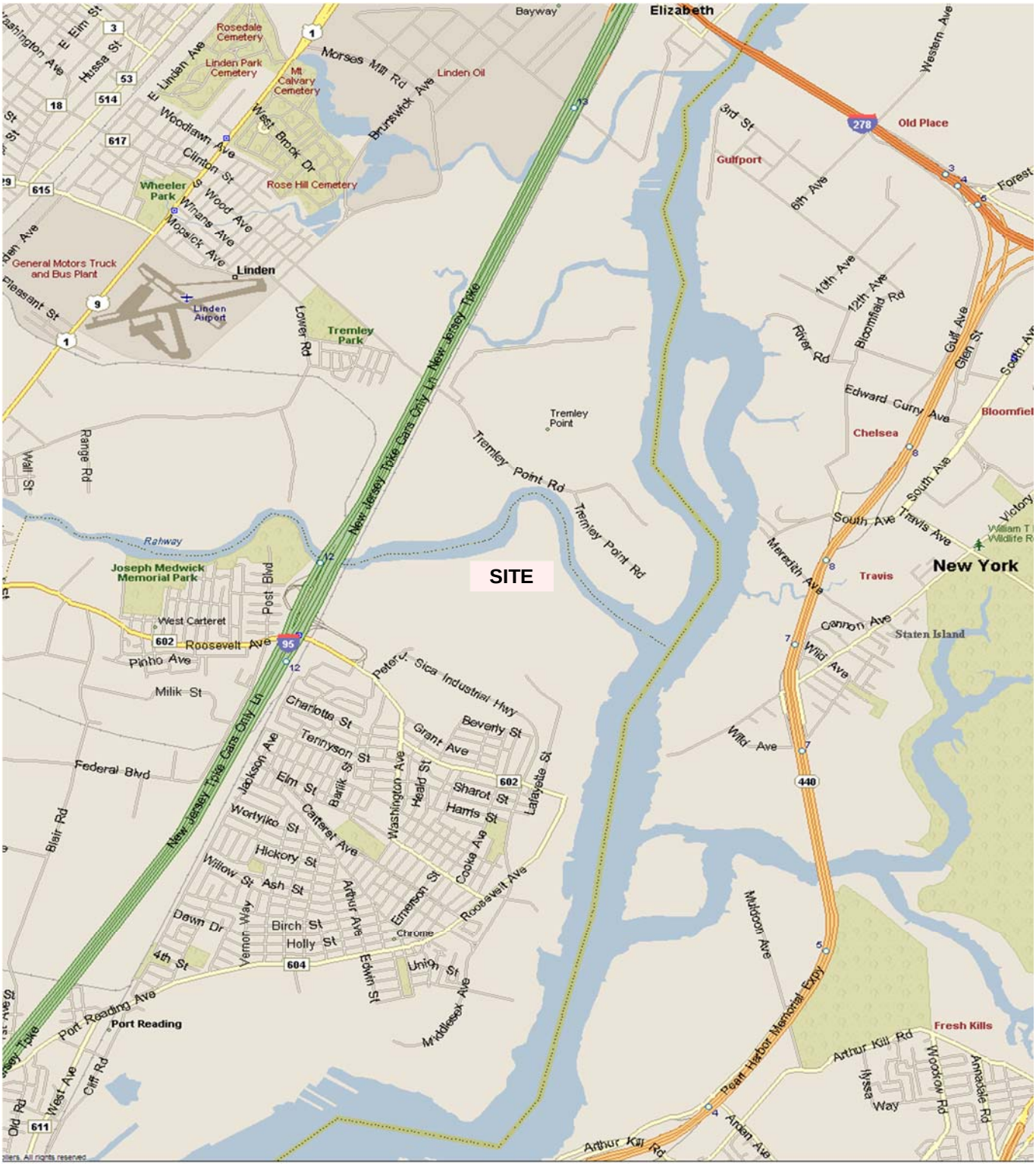

FIGURE 1.1

General Location Map of the Rahway Arch Site

EastStar Environmental Group, Inc.
Consulting and Field Services

10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044

Scale:	AS SHOWN	Date:	April 2011
Drawn By:	JAC	Checked By:	APF

Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

Fill Investigation of Rahway Arch Property Carteret, New Jersey

EastStar Environmental Group, Inc.
Consulting and Field Services
10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
www.EastStarEnv.com

Figure 1.2
Aerial Photo Showing the Rahway Arch Site

File Name: Site Sketch.dwg	Scale: nts
Date: March 22, 2011	Project Number: H019
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2. SITE HISTORY

2.1 Historic Site Use

The project site is the old Cytec Landfill, a former industrial landfill used by American Cyanamid Corporation from 1939 through 1973 to dispose of a mixture of acidic sludge from an alum manufacturing process and alkaline sludge from a yellow prussiate of soda (YSP) manufacturing process. The two waste streams were mixed together to form a neutral slurry and were pumped into the impoundments for disposal. Surface water from the Rahway River was used to liquefy the slurry for pumping. It is not known whether other waste streams or materials from the American Cyanamid plant were blended with the sludges prior to disposal.

The old Cytec Landfill, currently identified as the Rahway Arch site, is approximately 120 acres and consists of six impoundments and surrounding wetlands. The impoundments were constructed above existing grade with wooden and earthen dikes. They contain approximately 2,000,000 tons of the cyanide containing sludge.

Evidence indicates that fill material has been imported and used on the site over the years to maintain the dikes and to stabilize the surface in several of the impoundments. This fill material has been imported from various sites over the years for operations and maintenance of the landfill. Because it was imported to the site for the operations of the landfill, the fill may not be historic fill, as defined by the Technical Requirements for Site Remediation (Tech Rule), NJAC 7:26.E. However, the fill has the physical and chemical characteristics of historic fill.

Limited characterization data exists regarding the imported fill material. The purpose of this site investigation was to evaluate this material and determine if contaminants exist in the material beyond the known contamination from the landfill.

The site has been the subject of several environmental investigations by the U.S. Environmental Protection Agency and New Jersey Department of Environmental Protection. The U.S. EPA placed the site on CERCLIS in 1990 and completed a preliminary assessment in January 1991. A site investigation was completed in September 1992. Both studies indicated a low priority for further assessment, but there are limited available documents to support these conclusions. Specifically, sampling and analysis plans, quality control plans and most importantly, drawings or coordinates of sample locations were not available for review. Additionally, there is no evidence that the extensive areas of presumed historic fill on the berms and over the alum-YSP sludge disposal areas were ever sampled. In October 2007, EPA determined that the site did not qualify for the National Priorities List (NPL) and issued a no further remedial actions planned (NFRAP) status.

In April 2010, Soil Safe submitted a public records request to NJDEP to review the files and previous investigations regarding the site. However, review of the available documents showed that the files contained no information regarding the previous site assessments, remedial investigations or remedial actions. The only records available to Soil Safe came indirectly from the previous landowner.

In the 1970s, one of the primary concerns regarding the site was windblown dust from the dried alum/YSP sludge impacting visibility on the nearby New Jersey Turnpike. Growing a

vegetative cover over the alum/YSP sludge was determined to be the appropriate remedy for this concern. However, the alum/YSP sludge lacked the essential nutrients to support vegetative growth. Following evaluation and testing, sewage sludge from Philadelphia and Camden was applied over the entire site to promote vegetation growth.

In the early 1990s, the site was the subject of an administrative consent order (ACO) and NJDEP performed additional investigations on the landfill as an historic hazardous waste site. A remedial investigation (RI) plan was prepared for Cytec. Although no additional soil or sludge samples were collected, three new monitoring well clusters, each containing two wells, were installed and groundwater was sampled. Remedial action consisted on a monitoring and maintenance program and a declaration of environmental restrictions (DER). NJDEP issued no further action and covenant not to sue letters (NFA-CNS) for the site in 2002.

A new Preliminary Assessment (PA) was performed on the site in October 2006. The PA identified nine areas of concern (AOCs) including the sludge, the fill material used on the access roads, the instability of the berms and impacts to surface water. The PA also indicated that the approved engineering and administrative controls did not appear to still be protective of public health and safety and that some or all of the factors and assumptions used as the basis for the site specific remediation might not still be valid.

Other activities performed on the site during or following the remedial action are discussed in the next section of this report. It appears that all of the fill materials used in these subsequent activities, including the construction and demolition debris were assumed to be "clean". No analytical test results of any of these materials have been identified. Similarly, no analytical test results of the sewage sludge used to cover the alum-YSP sludge appear to exist.

Limited data contained in the historic reports indicate elevated levels of polynuclear aromatic hydrocarbons (PAHs). However, the reports do not indicate that the number of samples necessary to fully characterize the site under the current Tech Rule guidance were collected or analyzed. Because of the extremely limited and discontinuous information available, numerous uncertainties exist regarding the areas and materials investigated; and the sampling protocols used in these investigations. This makes these results un-reliable for determining the extent and levels of PAH contamination. In all the documentation available to Soil Safe and EastStar, there was no evidence or discussion was encountered indicating any removal or remediation of PAHs on or from the site.

An additional environmental investigation was conducted in 2005 by the NJ Turnpike Authority to extend a potential Turnpike interchange across the site. PAH contamination was identified in two of the three samples taken within the proposed site. The highest measured concentration of benzo(a)pyrene was 1,700 ug/kg.

2.2 On-site Fill Activities

Fill materials have been placed on the site over the years to stabilize the dikes, provide work area and bulk up the alum-YSP sludge in portions of the impoundments. Areas where fill was placed on the site were identified by review of historic documents regarding the site operations, historic aerial photographs and USGS topographic maps and discussions with the former

landfill operator. Based upon information obtained from the former operator, fill was placed in the following locations:

- Berms and roads around portions of Impoundments 2, 3, 4 and 6, including the portions of the berms for Impoundments 3, 4 and 6 that abut the Rahway River. These areas were rebuilt using imported fill base material and were topped with recycled concrete as a wearing surface.

- Berms and roads dividing the internal portions of Impoundments 4, 5 and 6. These areas were rebuilt using railroad ties as a foundation, imported fill as a base material and recycled concrete as a wearing surface.

- Imported fill material mixed with alum/TSP sludge excavated from Impoundment 6 to stabilize the surface in most of Impoundment 2. Adjacent to the berm, this fill was placed on railroad ties. The remainder of the sludge/fill blend was placed directly on the impoundment surface.

- Fill material from a local construction project in the western one third of Impoundment 3

- Hundreds of excess railroad ties not used in the road reconstruction in Impoundment 5

- Digested biosolids (sewage sludge) from Philadelphia and Camden placed on top of the sludge in all of the impoundments to reduce blowing sludge dust and promote vegetative growth.

- Demolition debris from the former American Cyanamid Warner Plant used in the berm between Impoundments 3 and 6 and in Impoundment 2.

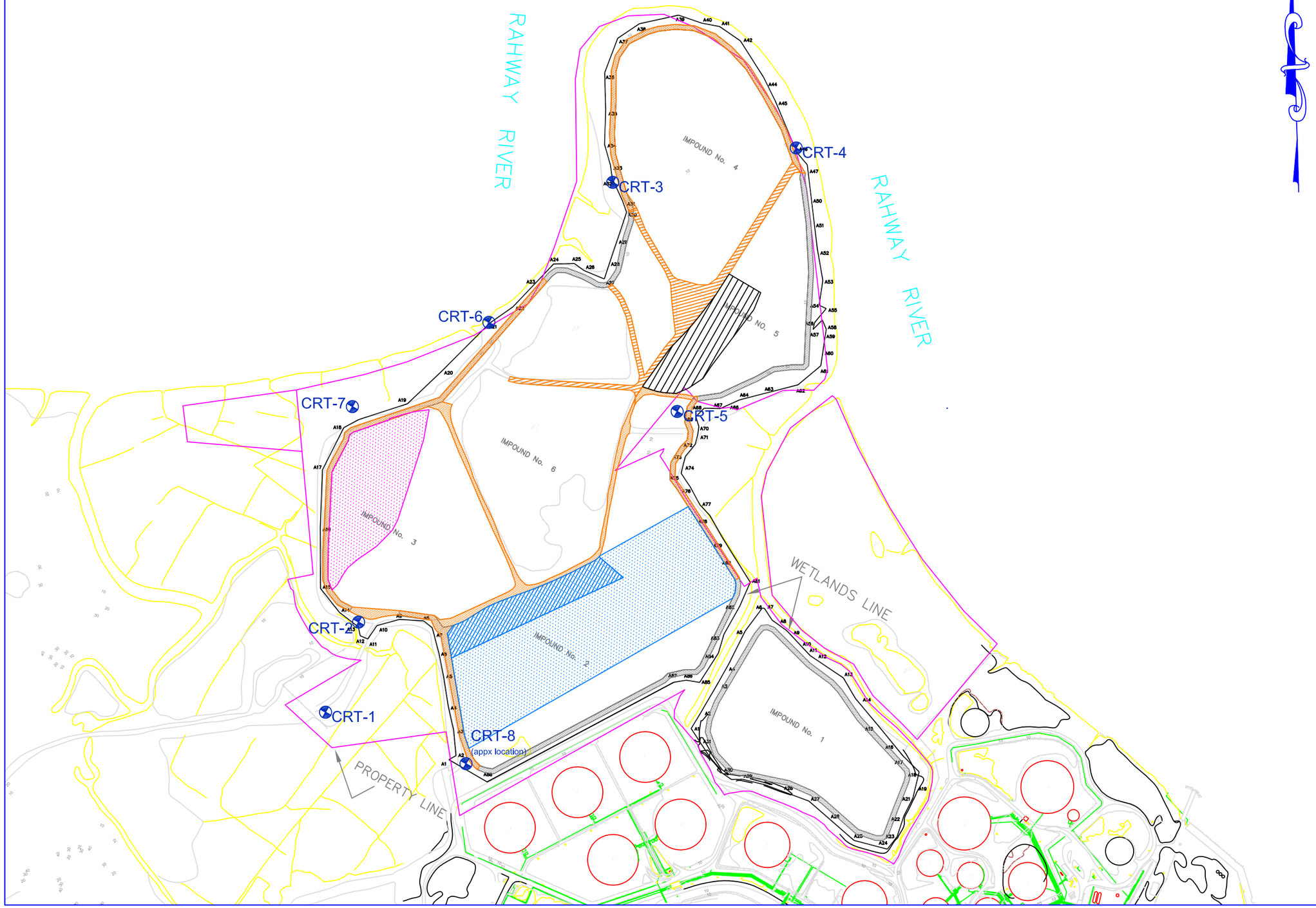
- Wood and wood chips from a Class B Recycling Facility and processing equipment operated on Impoundment 2 in the 2005-2006 timeframe. Notices of violation (NOVs) and correspondence describing unacceptable materials at the site were found, but no records of removal of off-spec or spilled materials from the operation were available.

Based upon the information obtained from this research, the approximate locations of the various historic fill areas described above were identified on a site plan. These locations are shown in Figure 2.1.

The landfill was never closed and has left the property unusable. The cyanide containing sludge and imported fill materials in and around the impoundments are exposed. The berms hold precipitation in the impoundments, creating open "bathtub" lagoons. Precipitation that does not evaporate either percolates slowly through the low permeability cyanide containing sludge to groundwater or seeps through the more permeable berms to the surrounding wetlands and riverine habitat.

The Class B recycling facility is believed to have been closed in 2007. Prior to closure, numerous notices of violation had been issued regarding the operations.

Based upon the historic information and the past site uses, it appears that 100% of the site is covered with either alum/YSP mixture sludge or historic fill. While the alum/YSP sludge has



Soil Safe

Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

Fill Investigation of Rahway Arch Property Carteret, New Jersey

LEGEND

- CRT-4 Existing Monitoring Well Cluster
- Road with Fill over RR Ties
- Road with Fill
- Mixed Fill over RR Ties
- Mixed Fill
- RR Ties
- Construction Fill

EastStar Environmental Group, Inc.
Consulting and Field Services
10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
www.EastStarEnv.com

Figure 2.1
Locations of Fill on the Rahway Arch Site

File Name:	Scale:
Site Sketch.dwg	1 Inch = 400 feet
Date:	Project Number:
March 22, 2011	H019
Drawn by:	
MAY	
Checked by:	
APF	

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been well characterized, there is a significant amount of uncertainty regarding the environmental quality of the landfill berm construction and other fill materials.

In a meeting with NJDEP in February 2011 to determine the appropriate permit mechanism to close the landfill, NJDEP recommended additional investigations be performed prior to the its making the permitting decision. Because of this and the degree of uncertainty regarding the existing site conditions, Soil Safe determined that it needed to establish a background for PAHs and other typical historic fill constituents prior to further consideration of operations at this location, resulting in this fill investigation.

3. PROJECT SCOPE

3.1 Sampling Plan

Soil Safe plans to close the old Cytec Landfill located on the Rahway Arch site. The concept plan calls for covering the impoundments with a reduced permeability fill material that will significantly reduce leaching through the sludge, control storm water and stabilize the berms.

The purpose of this fill investigation is to evaluate and document the existing conditions of the previously imported presumed historic fill and similar materials on the site for use in the permitting and approval process for the landfill closure. In accordance with the NFA, the Soil Safe product should not contain any constituents above the non-residential remediation standards that do not already exist at the site. Site history indicates that historic fill, or materials that characteristically resemble historic fill, will potentially be found on the site. As documented in the Tech Rule, historic fill in New Jersey typically contains concentrations of petroleum hydrocarbons, metals and PAHs above non-residential criteria. Limited investigations have already documented that these constituents are on the site. This investigation will determine if the historic fill material contains these constituents in other areas of the site or if they are ubiquitous throughout the site.

Prior to the start of sampling, EastStar prepared a sampling and analysis plan for the project. This plan was reviewed and approved by Soil Safe before the start of the work. A copy of the plan is contained in Appendix A to this report.

This fill investigation consisted of:

- Visual characterization of the existing fill materials.
- Collection and analysis of 21 soil samples from various on-site locations where fill materials (other than the well characterized alum-YSP sludge) have been placed.
- Location, condition assessment and gauging of the existing groundwater monitoring wells.

3.2 Contaminants of Concern

Contaminants of concern for this investigation consist of the contaminants typically found in historic fill in New Jersey and contaminants observed on the site. These contaminants of concern are:

- RCRA metals
- Polynuclear aromatic hydrocarbons (PAHs)
- Semi-volatile organic compounds (S-VOCs)
- Petroleum hydrocarbons
- Cyanide

Historic fill may contain metals, PAHs and petroleum hydrocarbons. The railroad ties observed on the site will contain wood preservatives including creosote and pentachlorophenol. The sewage sludge applied to the surface of the fill may contain metals and TPH contamination. The

former Class B recycling facility operations areas have recorded hydraulic and motor oil spills. Water that seeps through the berms and percolates through the alum-YSP sludge will contain cyanide. Adjacent properties, including an old municipal landfill and petroleum tank farms, are subject to significant remediation actions. Arsenic, PAHs and other organics have been found in the contiguous meadow mat and groundwater of adjoining properties.

The underlying groundwater is brackish and contains elevated concentrations of cyanide and other constituents. The near surface aquifer is tidally influenced and is classified as a Class III aquifer. The Rahway River has been impacted by spills and chronic pollution in the past in this heavily industrialized area.

In this report, the term historic fill has been used to describe the soil, construction and demolition debris, rail road ties, sewage sludge and similar materials that have been imported to the site for use in the landfill operations, maintain and stabilize the berms and provided operating areas for subsequent on-site activities. The evidence of use of these materials on the site is primarily anecdotal, based upon discussions with the previous site operator and visual observations of the existing site conditions. No documentation was available in any of the NJDEP files or the reports provided by the previous site owner regarding the sources of these materials (other than in general terms) or any environmental testing of these materials. As a result, even though they may not qualify as historic fill in accordance with Tech Rule definitions (the materials were used in the construction, operation and maintenance of the landfill), the fill materials have been presumed to be historic fill for purposes of the investigation.

4. FIELD INVESTIGATION

4.1 Sampling

Test pits were dug at 20 selected locations on the property. The sampling plan had identified 16 planned test pit locations and 4 alternate locations. Two of the planned test pit locations were not accessible and were not used. One additional test pit was not sampled because the fill material at that location was less than one foot thick. Test pits were dug at all four alternate locations. Two additional areas of interest were identified during the sampling event. Test pits were dug at both of these locations.

A small backhoe was used to dig test pits at the selected sampling locations. The test pits were excavated to the underlying base material to allow a full characterization of the fill material. Typically, the test pits were three to five feet deep. The maximum test pit depth was ten feet. The underlying base material was identified by visual observation and was generally delineated by rail road ties, alum-YSP sludge or a significant change in the soil characteristics.

At each location, the fill material was visually characterized and photographed to describe the physical characteristics. These characteristics include presence of rubble, construction/demolition debris or organic materials and classification of the soil. Bulk samples were collected at four selected locations for documentation and physical analysis.

Logs of each of the test pits, describing the soil conditions encountered at each of the test pit locations, are contained in Appendix B to this report. Photographs of the observed conditions are included with the logs. Additional photographs of conditions of interest observed on the site are contained in Appendix C.

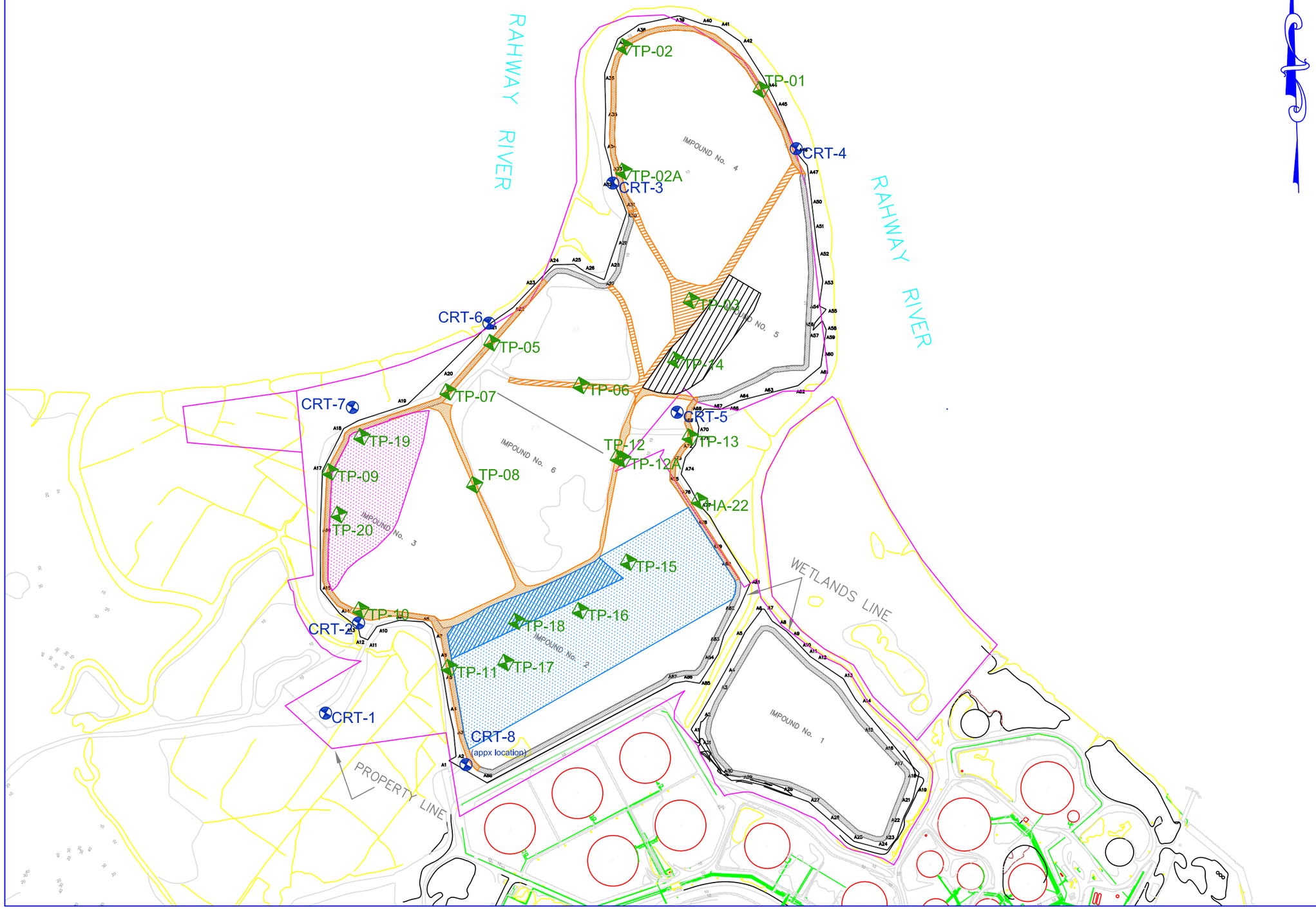
Two additional locations of interest were identified that could not be accessed by the backhoe used to dig the test pits. Near surface soil samples were collected from both of these locations using a hand auger.

One soil sample was collected from each of the test pits and the two hand auger locations, resulting in 21 soil samples being collected. These samples were collected from various depths from below the recycled concrete wearing surfaces to the base of the historic fill. The actual test pit locations are shown on Figure 4.1. The coordinates of the test pits, measured by the handheld GPS device are contained in Table 4.1.

4.2 Soil Sampling Procedures

4.2.1 Environmental Samples

Soil samples were collected from the each of the test pit locations discussed above. At each sample location, the top 12 inches of surface wearing course, typically consisting of gravel or recycled concrete, were removed The test pit was then dug through the historic fill until an underlying non-fill layer was encountered. Test pits were terminated when one or more of the following occurred:



Soil Safe

Soil Safe Incorporated
6700 Alexander Bell Drive
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Fill Investigation of Rahway Arch Property Carteret, New Jersey

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EastStar Environmental Group, Inc.
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10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
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Figure 4.1 Locations of the Test Pits

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Site Sketch.dwg	1 Inch = 400 feet
Date: March 22, 2011	Project Number: H019
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Table 4.1 - GPS Coordinates of the Test Pits

Test Pit	Latitude	Longitude	Easting (ft)	Northing (ft)
TP-01	N40 36.150	W74 12.822	571,618	644,516
TP-02	N40 36.188	W74 12.954	571,007	644,745
TP-02A	N40 36.094	W74 12.946	571,046	644,174
TP-03	N40 36.006	W74 12.886	571,325	643,641
TP-05	N40 35.976	W74 13.062	570,511	643,456
TP-06	N40 35.960	W74 12.985	570,868	643,360
TP-07	N40 35.946	W74 13.106	570,308	643,274
TP-08	N40 35.882	W74 13.076	570,448	642,885
TP-09	N40 35.891	W74 13.216	569,800	642,938
TP-10	N40 35.796	W74 13.182	569,959	642,362
TP-11	N40 35.756	W74 13.110	570,293	642,120
TP-12	N40 35.900	W74 12.957	570,999	642,996
TP-12A	N40 35.899	W74 12.953	571,017	642,990
TP-13	N40 35.913	W74 12.895	571,285	643,076
TP-14	N40 35.969	W74 12.910	571,215	643,416
TP-15	N40 35.828	W74 12.943	571,065	642,560
TP-16	N40 35.795	W74 12.986	570,866	642,359
TP-17	N40 35.788	W74 13.043	570,603	642,315
TP-18	N40 35.816	W74 13.033	570,648	642,485
TP-19	N40 35.920	W74 13.184	569,948	643,115
TP-20	N40 35.902	W74 13.199	569,879	643,005
HA-22	N40 35.879	W74 12.887	571,323	642,870

- Railroad ties used as the base for the fill material in certain areas were encountered
- Alum sludge, characterized as a medium gray, moist clay-like material was encountered.
- Water was encountered

Once the test pit was completed, an EastStar engineer determined the appropriate sampling depth for that test pit based upon visual observation of the soil. The backhoe operator was instructed to retrieve a bucket full of soil from that depth.

The sample was collected by excavating the soil from the backhoe bucket with a decontaminated stainless steel trowel and placing it directly into the sample jar. Care was taken during sampling not to collect soil that was in contact with, or might have come in contact with the backhoe bucket.

One eight ounce wide mouth laboratory pre-cleaned glass jar was filled for each sample. The sample jars were provided by the analytical laboratory. The jars were packed to zero headspace. The jars were then labeled and placed in a cooler, in ice. No preservatives were added to the sample containers.

The sampling equipment was decontaminated between samples. The sampler wore surgical gloves while sampling. These gloves were discarded after the sample was collected and fresh gloves were donned for the next sample.

4.2.2 Geotechnical Samples

Bulk soil samples were also collected from four test pits for geotechnical analyses. These samples were collected from selected test pits and depths based upon the sampling and analysis plan. The bulk samples were collected into 7x12 inch geotechnical sample bags that were then closed and labeled.

Because a larger scale geotechnical investigation is planned, these geotechnical samples were stored at EastStar's offices and were never analyzed. The objectives of the geotechnical sampling described in the sampling and analysis plan will be met in the planned larger investigation.

4.3 Documentation

Each test pit was visually documented with several photographs. A description of the test pit, the observed soil conditions and the soil sample depth were recorded by the EastStar engineer. These logs and photographs are contained in Appendix B. The geographical location of the test pit was recorded using a hand held GPS device. These coordinates were provided in Table 4.1.

4.4 Restoration

Once the sampling and documentation were complete, the test put was backfilled with the backhoe. Soil was placed back in the pit in lifts and was tamped with the backhoe bucket. The bucket and the blade on the opposite side of the backhoe were used to smooth the backfill to match the surrounding grade. The stone wearing surface was replaced, to the extent possible.

All waste materials, including used sampling gloves, decontamination liquids and investigation derived waste, were removed from the site for proper disposal.

4.5 Sample Handling and Delivery

All of the collected samples were labeled, placed in a cooler and chilled with ice. A chain of custody form was completed for the 21 samples, sufficient ice was placed in the cooler to maintain the samples at 4°C ±2°C and the cooler was sealed. The cooler was hand delivered to Soil Safe's facility in Logan, New Jersey to await pickup by the analytical laboratory the next morning.

The samples were picked up by QC Laboratories of Southampton, Pennsylvania on April 1, 2011. Strict chain of custody procedures were maintained from sample collection to receipt by the laboratory. The samples were maintained at 4°C with ice until delivery to the lab.

The samples were properly preserved, and the analyses were performed within the prescribed holding times. The laboratory sample checklists that accompanied the analytical reports document that the samples were received in acceptable condition and within the prescribed temperature range.

5. LABORATORY ANALYSIS

5.1 Analytical Procedures

The soil samples were analyzed by QC Laboratories in Southampton, Pennsylvania. QC Laboratories is accredited in accordance with the National Environmental Laboratory Accreditation Program (NELAP) requirements. Its New Jersey NELAP identification number is PA166.

The samples were analyzed for potential contaminants, following the analytical matrix in the Sampling and Analysis Plan. The following analytical methods were used to analyze the samples:

- Total petroleum hydrocarbons – diesel range organics (TPH-DRO) by EPA Method 8015B
- Semi-volatile organic compounds (S-VOCs) by EPA Method 8270C
- Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270C
- RCRA metals by EPA Method Methods 6010B and Method 7071A
- Cyanide by EPA Method 9091/9014.

The laboratory report and the chains of custody for the samples are contained in Appendix D. The results are discussed in the following paragraphs.

5.2 Analysis Results

5.2.1 Total Petroleum Hydrocarbons – Diesel Range Organics

Ten of the samples were tested for TPH-DRO. Diesel range petroleum hydrocarbons were detected in two samples, ranging from 1,360 to 1,530 mg/kg. A slight petroleum odor was noted in one of the test pits. Because of matrix interference, the laboratory had to heavily dilute all of the samples, increasing the actual reporting limits for the analyses.

Hand auger sample HA22-21 was one of the samples where TPH-DRO was not detected. However, because of dilution, the detection limit for this sample was 1,150 mg/kg. The TPH-DRO reporting limits in the other seven samples where TPH-DRO was not detected was generally 270 to 290 mg/kg.

5.2.2 RCRA Metals

Metals, consisting of arsenic, barium, chromium and lead, were detected in all of the samples. Mercury was also detected in most of the samples. The other RCRA metals, cadmium, selenium and silver, were at or below the laboratory reporting limits in all of the samples. Observations from the metals analysis results are:

- Arsenic concentrations were elevated, but less than the non-residential remediation standards, likely reflecting the elevated background concentrations for arsenic in this area of New Jersey.

- The Lead concentration in the sample from test pit TP-09 was 792 mg/kg. The lead concentrations in the remainder of the samples ranged from 18.5 mg/kg (TP-01) to 226 mg/kg (TP-15).

- Chromium concentrations ranged from 10.1 to 64.9 mg/kg and likely reflect the background concentration in the fill materials used and placed at the site.

- Mercury was detected in 15 of the 21 samples. The highest mercury concentration was 2.24 in hand auger sample HA22-21.

5.2.3 Polynuclear Aromatic Hydrocarbons

PAH compounds were detected in all but two of the samples. The PAH concentrations in the samples fluctuated over a wide range indicating likely PAH contamination in the presumed historic fill. Using benzo(a)pyrene (BaP) as an example, the BaP concentrations exceeded the remediation standards in 14 of the samples. The highest BaP concentrations were 49,700 ug/kg in TP13-20 and 59,300 in TP16-03. A summary of the results of the PAH analyses is provided in Table 5.1. Additional discussion and analysis of the PAH results is presented in Section 5.5.

5.2.4 Semi-volatile Organic Compounds

One sample, TP14-19, was analyzed for the full S-VOC list including PAHs. The sample was in a waste railroad tie dumping area. The full S-VOC list was analyzed to determine if there was any contamination in the fill associated with the wood preservative chemicals contained in the ties.

Two compounds, bis(2-ethylhexyl) phthalate and dimethyl phthalate were detected above the laboratory reporting limit in this sample. Most of the PAH compounds were below the detection limit in this sample, and no wood preservative compounds were detected. No other S-VOC compounds were detected in any of the samples.

5.2.5 Cyanide

Most of the samples were not analyzed for cyanide because the cyanide contamination on the site from the alum/YSP sludge has been well documented in previous investigations. One sample, TP13-20, was analyzed for cyanide. This sample was selected because it is in the berm between Impoundment 2 and the adjacent wetlands and is downgradient of possible runoff from the site. The cyanide concentration in this sample was 4.95 mg/kg, indicating some migration of cyanide from the alum/YSP sludge to the fill material used in the berm.

Table 5.1 - Summary of Analytical Results for PAHs

Parameter	Units	TP-01 TP01-16 8-10 ft	TP-02 TP02-17 2-3 ft	TP-02A TP02A-18 1-2 ft	TP-03 TP03-15 1-2 ft	TP-05 TP05-10 2-3 ft	TP-06 TP06-14 3-4 ft	TP-07 TP07-09 4-5 ft	TP-08 TP08-11 1-2 ft	TP-09 TP09-07 2-3 ft	TP-10 TP10-06 4-5 ft	TP-11 TP11-05 2-3 ft
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)												
Acenaphthylene	ug/kg	<32.8	<165	85.3	<95.1	171	<159	<34.4	782	<165	<65.6	195
Acenaphthene	ug/kg	<34.3	<173	<33.9	<99.7	318	<167	<36.0	709	<173	<68.8	379
Anthracene	ug/kg	34.1	161	67.4	<62.5	932	<105	<22.6	2,980	366	<43.1	850
Benzo(a) anthracene	ug/kg	90.8	608	411	303	2,090	<299	<64.4	9,840	674	<123	2,510
Benzo(a)pyrene	ug/kg	88.6	608	447	277	2,060	<254	<54.8	8,560	468	<105	2,530
Benzo(b) fluoranthene	ug/kg	93.1	700	496	350	1,600	<274	<59.1	10,000	514	<113	2,480
Benzo(k) fluoranthene	ug/kg	74.9	448	391	323	2,070	<307	<66.3	2,070	503	<126	2,490
Benzo(g,h,i) perylene	ug/kg	<40.2	241	247	<117	853	<196	<42.1	3,590	<202	<80.4	1,160
Chrysene	ug/kg	343	711	460	343	2,150	<334	<72.0	10,200	800	<137	2,660
Dibenzo(a,h) anthracene	ug/kg	<53.1	<269	71.8	<154	<266	<259	<55.8	1,640	<267	<106	402
Fluoranthene	ug/kg	191	1,180	788	482	3,950	<330	<71.0	22,300	1,720	<136	5,500
Fluorene	ug/kg	<38.5	<195	<38.1	<112	546	<188	<40.4	1,170	297	<77.1	482
Ideno(1,2,3-cd) pyrene	ug/kg	<45.0	287	220	<131	773	<219	<47.2	3,520	<226	<90.1	1,070
2-Methylnaphthalene	ug/kg	<40.2	<203	<39.7	<117	341	<196	<42.1	<216	<202	<80.4	310
Naphthalene	ug/kg	<41.2	<208	<40.7	<120	341	<200	<43.2	<221	<207	<82.4	471
Phenanthrene	ug/kg	120	746	344	178	3,530	<213	<22.6	12,100	1,770	<87.4	3,480
Pyrene	ug/kg	213	1,070	739	594	2,090	354	<63.4	19,800	1,520	<121	4,860

10632 Little Patuxent Parkway, Suite 106, Columbia, MD 21044
Ph: (410) 290-8777 Fax: (410) 290-9055

Table 5.1 - Summary of Analytical Results for PAHs

Parameter	Units	TP-12 TP12-12 2-3 ft	TP-12A TP12A-13 0-1 ft	TP-13 TP13-20 2-3 ft	TP-14 TP14-19 0-1 ft	TP-15 TP15-04 4-5 ft	TP-16 TP16-03 4-5 ft	TP-17 TP17-02 3-4 ft	TP-18 TP18-01 4-5 ft	TP-19 TP19-08 2-3 ft	HA-22 HA22-21 0-1 ft
Polynuclear Aromatic Hydrocarbons (EP											
Acenaphthylene	ug/kg	<35.2	219	921	<264	<70.4	2,240	66.9		80.8	<139
Acenaphthene	ug/kg	<36.9	323	8,480	<325	<73.8	8,070	298		71.8	<145
Anthracene	ug/kg	29.3	1,240	18,200	<350	83.0	24,500	762		269	144
Benzo(a) anthracene	ug/kg	112	6,880	54,200	<252	332	60,200	2,220		979	635
Benzo(a)pyrene	ug/kg	97.6	3,610	49,700	<248	332	59,300	1,970		916	615
Benzo(b) fluoranthene	ug/kg	142	7,040	46,700	222	464	51,600	1,740		696	952
Benzo(k) fluoranthene	ug/kg	115	6,580	46,200	<268	278	52,300	1,740		813	548
Benzo(g,h,i) perylene	ug/kg	<43.2	2,740	21,500	<228	137	23,100	914		314	288
Chrysene	ug/kg	127	6,860	52,600	<241	425	57,000	2,120		1,090	702
Dibenzo(a,h) anthracene	ug/kg	<57.1	1,420	11,800	<187	<114	13,500	533		<105	<225
Fluoranthene	ug/kg	181	12,900	118,000	308	644	127,000	4,390		1,680	1,230
Fluorene	ug/kg	<41.4	254	6,460	<232	<82.8	9,200	302		94.3	<163
Ideno(1,2,3-cd) pyrene	ug/kg	<48.3	2,760	20,600	<242	122	23,200	930		287	279
2-Methylnaphthalene	ug/kg	<43.2	<204	1,090	<298	<86.3	465	<40.8		<79.4	<170
Naphthalene	ug/kg	<44.2	<209	2,020	<366	<88.4	747	152		<81.4	<174
Phenanthrene	ug/kg	95.2	4,080	62,800	<250	376	66,100	2,580		1,050	567
Pyrene	ug/kg	200	12,900	117,000	<279	600	106,000	3,500		2,100	1,290

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5.3 Quality Control

The following steps were taken to ensure the quality of the samples and the analyses:

- All samples were collected directly into the sample containers, using the prescribed number and type of sample containers required for the analytical methods
- All samples were chilled following collection and were maintained at 4°C until analysis.
- All of the samples were analyzed within the prescribed holding times for the analytical methods.
- Strict chain-of custody procedures were used from the time the samples were collected until they were delivered to the laboratory.
- Prescribed EPA analytical methods were used by a qualified and accredited laboratory
- Laboratory quality control measurements were within the acceptable ranges for the prescribed methods

Matrix interference was identified in a number of the samples requiring dilutions and resulting in higher reporting limits for some of the samples. Refer to the laboratory report in Appendix D for details on the interference and the dilutions.

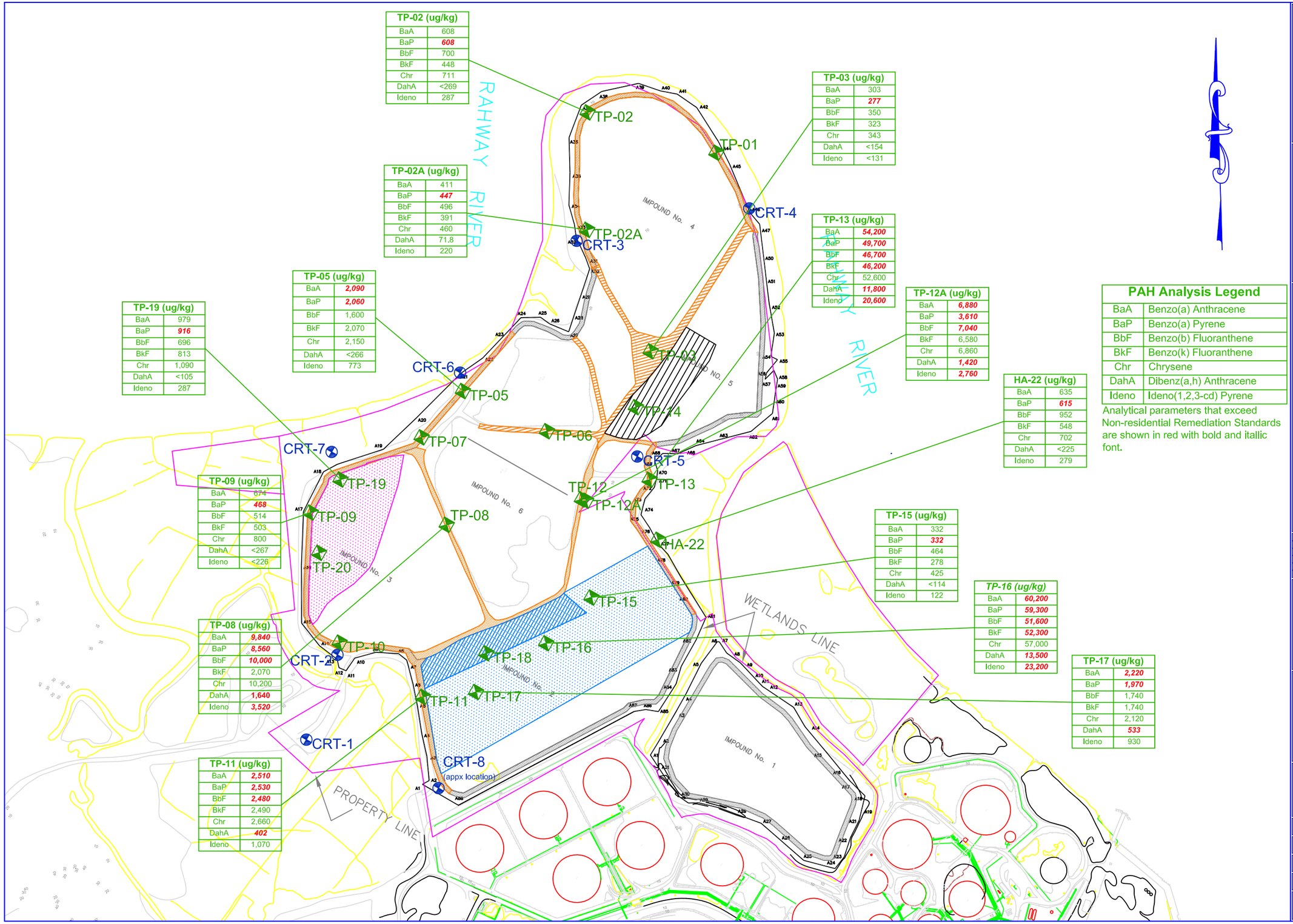
5.4 Interpretation of Analytical Results

The analytical results of the fill materials samples show that the historic fill on the site is contaminated with metals, PAHs, cyanide and petroleum hydrocarbons. The petroleum hydrocarbon contamination is relatively localized. Most of the metals concentrations appear to be background for the historic fill, but elevated concentrations of lead and mercury were detected. The PAH contamination in the historic fill is wide-spread throughout the site. PAHs were measured at concentrations exceeding non-residential standards in 14 of 20 samples.

A graphical representation of the PAH analytical results is provided in Figure 5.1. This figure shows the test pit locations where the analytical results indicate one or more contaminants above the remediation standards.

The widespread nature of the PAH contamination on the site, indicates that this contamination is ubiquitous throughout the property. The results also confirm the previous NJDEP and NJ Turnpike Authority sample analyses that also showed PAH contamination on the site. Figure 5.2 shows a graphical representation of the PAH contamination on the site including the NJDEP and NJ Turnpike Authority results, along with the results from this investigation.

The PAH containing historic fill is spread over the entire site including the fill material in the berms and roads and the bio-solid cover material on the impoundments. The fill and the contamination cannot be isolated to a single area on the site. As a result, EastStar considers this fill to be a single area of concern, covering the entire 120 acre property.



TP-02 (ug/kg)	
BaA	608
BaP	***608***
BbF	700
BkF	448
Chr	711
DahA	<269
Ideno	287

TP-03 (ug/kg)	
BaA	303
BaP	***277***
BbF	350
BkF	323
Chr	343
DahA	<154
Ideno	<131

TP-02A (ug/kg)	
BaA	411
BaP	***447***
BbF	496
BkF	391
Chr	460
DahA	71.8
Ideno	220

TP-13 (ug/kg)	
BaA	***54,200***
BaP	***49,700***
BbF	***46,700***
BkF	***46,200***
Chr	52,600
DahA	***11,800***
Ideno	***20,600***

TP-05 (ug/kg)	
BaA	***2,090***
BaP	***2,060***
BbF	1,600
BkF	2,070
Chr	2,150
DahA	<266
Ideno	773

TP-12A (ug/kg)	
BaA	***6,880***
BaP	***3,610***
BbF	***7,040***
BkF	6,580
Chr	6,860
DahA	***1,420***
Ideno	***2,760***

TP-19 (ug/kg)	
BaA	979
BaP	***916***
BbF	696
BkF	813
Chr	1,090
DahA	<105
Ideno	287

HA-22 (ug/kg)	
BaA	635
BaP	***615***
BbF	952
BkF	548
Chr	702
DahA	<225
Ideno	279

TP-09 (ug/kg)	
BaA	674
BaP	***468***
BbF	514
BkF	503
Chr	800
DahA	<267
Ideno	<226

TP-15 (ug/kg)	
BaA	332
BaP	***332***
BbF	464
BkF	278
Chr	425
DahA	<114
Ideno	122

TP-16 (ug/kg)	
BaA	***60,200***
BaP	***59,300***
BbF	***51,600***
BkF	***52,300***
Chr	57,000
DahA	***13,500***
Ideno	***23,200***

TP-08 (ug/kg)	
BaA	***9,840***
BaP	***8,560***
BbF	***10,000***
BkF	2,070
Chr	10,200
DahA	***1,640***
Ideno	***3,520***

TP-17 (ug/kg)	
BaA	***2,220***
BaP	***1,970***
BbF	1,740
BkF	1,740
Chr	2,120
DahA	***533***
Ideno	930

TP-11 (ug/kg)	
BaA	***2,510***
BaP	***2,530***
BbF	***2,480***
BkF	2,490
Chr	2,660
DahA	***402***
Ideno	1,070

PAH Analysis Legend	
BaA	Benzo(a) Anthracene
BaP	Benzo(a) Pyrene
BbF	Benzo(b) Fluoranthene
BkF	Benzo(k) Fluoranthene
Chr	Chrysene
DahA	Dibenz(a,h) Anthracene
Ideno	Ideno(1,2,3-cd) Pyrene

Analytical parameters that exceed Non-residential Remediation Standards are shown in red with bold and italic font.

LEGEND

- TP-01 Test Pit Location
- CRT-4 Existing Monitoring Well Cluster
- Road with Fill over RR Ties
- Road with Fill
- Mixed Fill over RR Ties
- Mixed Fill
- RR Ties
- Construction Fill

Soil Safe

Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

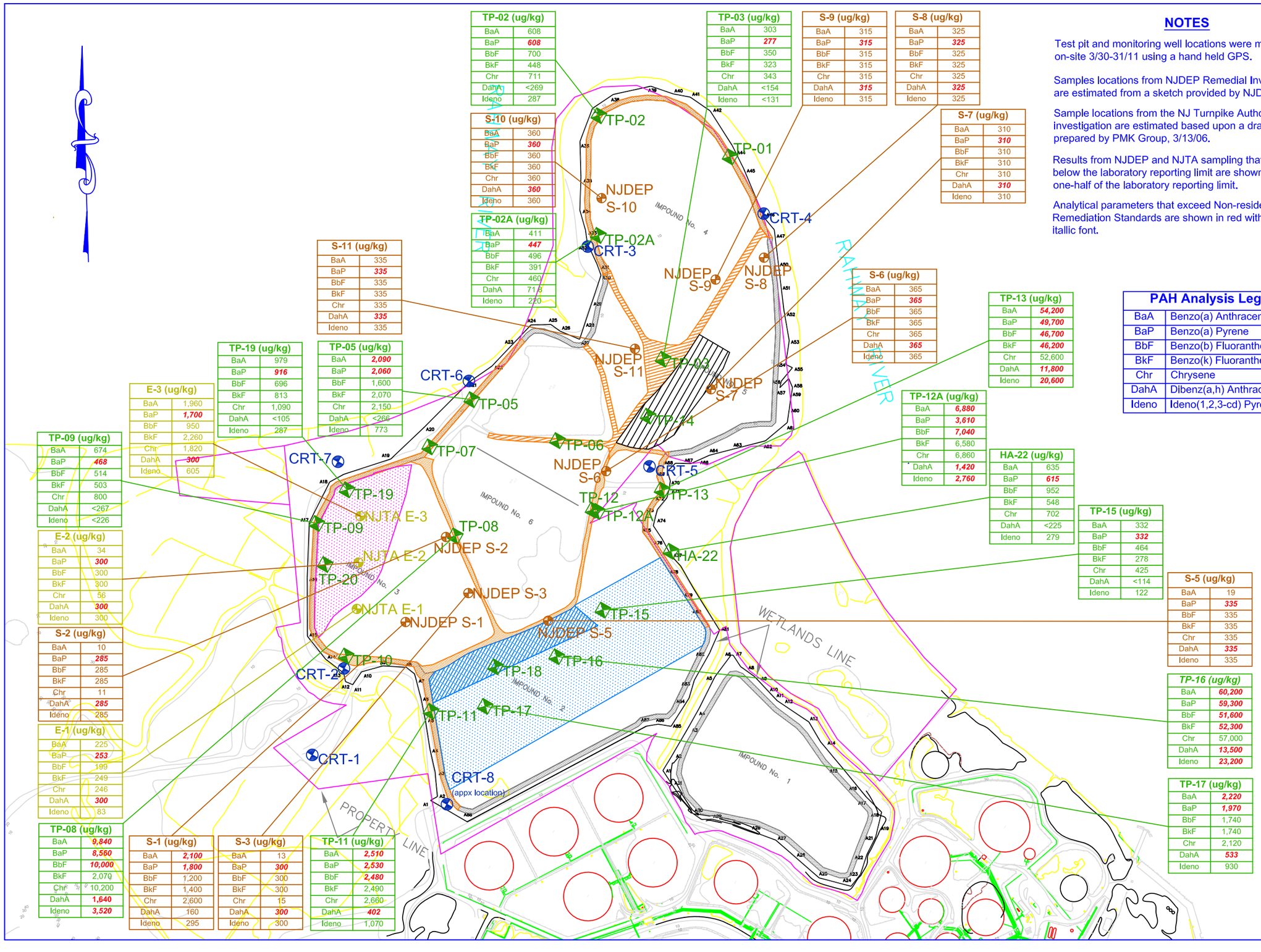
Fill Investigation of Rahway Arch Property Carteret, New Jersey

EastStar Environmental Group, Inc.
Consulting and Field Services
10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
www.EastStarEnv.com

Figure 5.1 Areas of PAH Contamination

File Name:	Scale:
Site Sketch.dwg	1 Inch = 400 feet
Date:	Project Number:
March 22, 2011	H019
Drawn by:	
MAY	
Checked by:	
APF	

Sheet 1 of 1 Sheets



NOTES

Test pit and monitoring well locations were measured on-site 3/30-31/11 using a hand held GPS.

Samples locations from NJDEP Remedial Investigation are estimated from a sketch provided by NJDEP.

Sample locations from the NJ Turnpike Authority investigation are estimated based upon a drawing prepared by PMK Group, 3/13/06.

Results from NJDEP and NJTA sampling that were below the laboratory reporting limit are shown at one-half of the laboratory reporting limit.

Analytical parameters that exceed Non-residential Remediation Standards are shown in red with bold and itallic font.

PAH Analysis Legend	
BaA	Benzo(a) Anthracene
BaP	Benzo(a) Pyrene
BbF	Benzo(b) Fluoranthene
BkF	Benzo(k) Fluoranthene
Chr	Chrysene
DahA	Dibenz(a,h) Anthracene
Ideno	Ideno(1,2,3-cd) Pyrene

LEGEND

- TP-01 Test Pit Location
- CRT-4 Existing Monitoring Well Cluster
- Road with Fill over RR Ties
- Road with Fill
- Mixed Fill over RR Ties
- Mixed Fill
- RR Ties
- Construction Fill
- NJTA E-1 - NJ Turnpike Authority Samples, Nov. 2005
- NJDEP S-1 - NJDEP Remedial Investigation Samples, Oct. 1991

Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

Fill Investigation of Rahway Arch Property
Carteret, New Jersey

EastStar Environmental Group, Inc.
Consulting and Field Services
10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
www.EastStarEnv.com

Figure 5.2 - Areas of PAH Contamination All Data

File Name: Site Sketch.dwg	Scale: 1 Inch = 400 feet
Date: March 28, 2011	Project Number: H019
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

5.5 Statistical Analysis of PAH Results

5.5.1 Alternative Fill Guidance

Soil Safe's plan to close the Carteret Landfill consists of capping the site with alternative fill from off-site sources. This alternative fill will be engineered fill soil generated from a Class B recycling facility that Soil Safe will locate on the site. A fill protocol and strict quality control procedures will be implemented for the acceptance and processing of the engineered fill. The fill protocol will also comply with the NJDEP Site Remediation Program Fill Guidance at SRP Sites.

The Fill Guidance contains two criteria for determining if alternative fill material can be brought to an SRP site:

- No new contaminants may be placed on an area of concern other than those already determined to be present (Like-on-Like Requirement)
- Contaminant concentrations in the alternative fill cannot exceed concentrations already known to exist on the area of concern (75th Percentile Requirement)

5.5.2 Like-on-Like Requirement

Since the results from this investigation determined that the existing PAH concentrations on the site exceed the non-residential remediation standard, the Soil Safe engineered fill product may also contain PAHs in excess of the standard and comply with the Like-on-Like Requirement.

5.5.3 Allowable Contaminant Concentrations

The Alternative Fill Guidance provides two options for determining the maximum contaminant concentrations in the alternative fill:

- Concentration in the alternative fill may not exceed the 75th percentile of the existing contaminant concentration in the area of concern.

or

- Concentration in the alternative fill may not exceed the 95% upper confidence level (UCL) of the existing contaminant concentration in the area of concern.

The 95% UCL option is applicable to large areas of concern with datasets that contain 20 or more samples. This site meets those requirements, so the 95% UCL option was used to evaluate the existing PAH concentration.

EastStar calculated the 95% UCL for the seven carcinogenic PAHs. Following the Guidance, the 95% UCL was calculated using ProUCL 4.0 software with no outliers excluded.

Two 95% UCL analyses were performed. The first analysis was performed using only the data from this investigation. The results of this analysis are summarized in Table 5.2.

The second was performed using all of the known PAH data, consisting of the data from this investigation, the 1991 NJDEP investigation and the 2005 New Jersey Turnpike Authority (NJTA) investigation. The results of this analysis are summarized in Table 5.3.

The 95% UCL analysis shows that the concentrations of several of these PAH compounds significantly exceed the non-residential remediation standard. The results are compared to the non-residential standard in Table 5.4.

Table 5.2 - 95% Upper Confidence Limit Analysis of Existing PAH Concentrations - March 2011 Data Only

Sample Number	Benzo[a] Anthracene (ug/kg)	Benzo[a] Pyrene (ug/kg)	Benzo[b] Fluoranthene (ug/kg)	Benzo[k] Fluoranthene (ug/kg)	Chrysene (ug/kg)	Dibenz[a,h] Anthracene (ug/kg)	Indeno[1,2,3-cd] Pyrene (ug/kg)
TP-01	91	89	93	75	343	27	23
TP-02	608	608	700	448	711	135	287
TP-02A	411	447	496	391	460	72	220
TP-03	303	277	350	323	343	77	66
TP-05	2,090	2,060	1,600	2,070	2,150	133	773
TP-06	150	127	137	154	167	130	110
TP-07	32	27	30	33	36	28	24
TP-08	9,840	8,560	10,000	2,070	10,200	1,640	3,520
TP-09	674	468	514	503	800	134	113
TP-10	62	53	57	63	69	53	45
TP-11	2,510	2,530	2,480	2,490	2,660	402	1,070
TP-12	112	98	142	115	127	29	24
TP-12A	6,880	3,610	7,040	6,580	6,860	1,420	2,760
TP-13	54,200	49,700	46,700	46,200	52,600	11,800	20,600
TP-14	126	124	222	134	121	94	121
TP-15	332	332	464	278	425	57	122
TP-16	60,200	59,300	51,600	52,300	57,000	13,500	23,200
TP-17	2,220	1,970	1,740	1,740	2,120	533	930
TP-19	979	916	696	813	1,090	53	287
HA-22	635	615	952	548	702	113	279
95% UCL	**31,329**	**29,741**	**27,096**	**26,738**	**30,097**	**10,069**	**11,995**

Notes:

1. Analytical results reported as below the laboratory reporting limit have been entered as 0.5 times the laboratory reporting limit
2. 95% UCL calculated using ProUCL 4.0 software published by the U.S. EPA.

Table 5.3 - 95% Upper Confidence Limit Analysis of Existing PAH Concentrations - All Data

Sample Number	Benzo[a] Anthracene (ug/kg)	Benzo[a] Pyrene (ug/kg)	Benzo[b] Fluoranthene (ug/kg)	Benzo[k] Fluoranthene (ug/kg)	Chrysene (ug/kg)	Dibenz[a,h] Anthracene (ug/kg)	Indeno[1,2,3-cd] Pyrene (ug/kg)
NJDEP Site Investigation Data, December 1991							
S1	2,100	1,800	1,200	1,400	2,600	160	295
S2	10	285	285	285	11	285	285
S3	13	300	300	300	15	300	300
S5	19	335	335	335	23	335	335
S6	365	365	365	365	365	365	365
S7	310	310	310	310	310	310	310
S8	325	325	325	325	325	325	325
S9	315	315	315	315	315	315	315
S10	360	360	360	360	360	360	360
S11	335	335	335	335	335	335	335
NJDOT Sample Data, November 2005							
E-1	225	253	199	249	246	300	83
E-2	34	300	300	300	56	300	300
E-3	1,960	1,700	950	2,260	1,820	300	605
EastStar Fill Investigation Data, March 2011							
TP-01	91	89	93	75	343	27	23
TP-02	608	608	700	448	711	135	287
TP-02A	411	447	496	391	460	72	220
TP-03	303	277	350	323	343	77	66
TP-05	2,090	2,060	1,600	2,070	2,150	133	773
TP-06	150	127	137	154	167	130	110
TP-07	32	27	30	33	36	28	24
TP-08	9,840	8,560	10,000	2,070	10,200	1,640	3,520
TP-09	674	468	514	503	800	134	113
TP-10	62	53	57	63	69	53	45
TP-11	2,510	2,530	2,480	2,490	2,660	402	1,070
TP-12	112	98	142	115	127	29	24
TP-12A	6,880	3,610	7,040	6,580	6,860	1,420	2,760
TP-13	54,200	49,700	46,700	46,200	52,600	11,800	20,600
TP-14	126	124	222	134	121	94	121
TP-15	332	332	464	278	425	57	122
TP-16	60,200	59,300	51,600	52,300	57,000	13,500	23,200
TP-17	2,220	1,970	1,740	1,740	2,120	533	930
TP-19	979	916	696	813	1,090	53	287
HA-22	635	615	952	548	702	113	279
95% UCL	**23,349**	**26,942**	**24,496**	**24,246**	**18,738**	**6,276**	**10,876**

Notes:

1. Analytical results reported as below the laboratory reporting limit have been entered as 0.5 times the laboratory reporting limit
2. 95% UCL calculated using ProUCL 4.0 software published by the U.S. EPA.

Table 5.4 – Comparison of 95% UCL Results to Non-residential Remediation Standard

PAH Compound	95% UCL		Non-residential Remediation Standard (mg/kg)
	All Data (mg/kg)	March 2011 Data (mg/kg)	
Benzo[a] Anthracene	23.3	31.3	2
Benzo[a] Pyrene	26.9	29.7	0.2
Benzo[b] Fluoranthene	24.5	27.1	2
Benzo[k] Fluoranthene	24.2	26.7	23
Chrysene	18.7	30.1	230
Dibenz[a,h] Anthracene	6.28	10.1	0.2
Indeno[1,2,3-cd] Pyrene	10.9	12.0	2

6. MONITORING WELL INVESTIGATION

6.1 Existing Monitoring Wells

Eight monitoring well clusters are located on the site. Each cluster consists of two monitoring wells, one screened in the shallow surface aquifer and one screened in the deeper bedrock aquifer. The surface aquifer consists of fill, black organic sand and red-brown clay. The bedrock aquifer consists of Triassic age Brunswick formation shale.

The wells were identified by the well cluster number (CRT-1 through CRT-8) and an "S" or "D". The shallow wells were given an "S" designation, while the deep wells were given a "D" designation. However, the filed investigation determined that the shallow and deep designations on the well tags for the wells in well clusters CRT-2 and CRT-5 were reversed.

The first five well clusters (Clusters CRT-1 through CRT-5) were installed in 1987 as part of an environmental assessment of the site for American Cyanamid. All of these wells were constructed with 4 inch diameter PVC casings. The wells have steel protective casings that extend two to four feet above ground surface.

The other three well clusters (CRT-6 through CRT-8) were installed in 1994 as part of the remedial action plan implemented by Cytec Industries. The shallow wells were constructed with 2 inch diameter PVC casings, and the deep wells were constructed with 4 inch diameter PVC casings. The wells have steel protective casings that extend two to four feet above ground surface.

6.2 Well Inspection and Gauging

On March 31, 2011, EastStar inspected seven of the eight well clusters. Well cluster CRT-8 was not observed during the fill investigation and was not inspected. The inspection consisted of:

- Visually observing the conditions of the well casings and the protective casings
- Recording well tag information
- Noting any odors inside the wells or any sheen on the water
- Measuring the depth to the water surface and the depth to the bottom of the well
- Recording the coordinates of the wells using a hand held GPS receiver.

Depth to water and depth of the well were measured using an electronic water level indicator. The interiors of the wells and water surface were observed by shining a light down the well casing.

The results of the inspection are summarized in Tables 5.1 and 5.2. Table 5.1 provides the available well tag information and the visual observations from the wells. Table 5.2 provides the depth to water, well depth and well coordinates.

Table 6.1 - Monitoring Well Observations

Monitoring Well	Relative Location in Cluster	Well Tag	Casing Diameter (in)	Reference Elevation (ft)	Observations
1S	West	24-10387-0	4	7.96	
1D	East	24-10386-1	4	7.86	
2S	West	24-10389-6	4	8.68	Incorrect designation. This is the deep well.
2D	East	24-10388-8	4	8.73	Slight oily sheen. Incorrect designation. This is the shallow well.
3S	South	24-10395-1	4	7.17	
3D	North	24-10389-2	4	7.47	
4S	North	24-10393-4	4	13.25	
4D	South	24-10392-6	4	12.04	
5S	South	24-10391-8	4	11.81	Incorrect designation. This is the deep well.
5D	North	24-10390-0	4	11.67	Incorrect designation. This is the shallow well.
6S	West	no tag	2		No well tag
6D	East	no tag	4		No well tag
7S	West	no tag	2		Slight oily sheen. No well tag
7D	East	no tag	4		No well tag, Protective casing rusted through at ground
8S					
8D					

Notes:

1. Reference elevations listed were printed on the well tags
2. No well tags were visible for the wells in clusters CRT-6 or CRT-7
3. Cluster CRT-8 was not observed during this investigation
4. Observations made March 31, 2011, 8:30 to 10:30 AM

Table 6.2 - Monitoring Well Gauging Data

Monitoring Well	Water Depth (ft)	Well Depth (ft)	Measured from	Latitude	Longitude	Easting (ft)	Northing (ft)
1S	5.80	15.75	North side steel casing	N40 35.726	W74 13.214	569,813	641,936
1D	4.41	53.43	North side steel casing				
2S	5.06	50.72	North side PVC casing	N40 35.797	W74 13.184	569,950	642,368
2D	4.46	17.49	North side PVC casing				
3S	4.29	21.39	North side PVC casing	N40 35.930	W74 12.899	571,266	643,179
3D	4.58	38.45	North side PVC casing				
4S	7.98	24.91	North side PVC casing	N40 36.109	W74 12.792	571,758	644,268
4D	8.85	44.31	North side PVC casing				
5S	8.88	54.54	North side PVC casing	N40 36.086	W74 12.958	571,000	644,126
5D	8.93	31.09	North side PVC casing				
6S	10.01	32.82	North side PVC casing	N40 35.991	W74 13.067	570,488	643,547
6D	9.94	68.32	North side PVC casing				
7S	4.47	30.31	North side PVC casing	N40 35.934	W74 13.189	569,924	643,199
7D	5.08	96.77	North side PVC casing				
8S							
8D							

Notes:

1. Reference elevations listed were printed on the well tags
2. Depths measured from top of casing as noted above.
3. Coordinates were measured to the approximate center of the well cluster
4. No well tags were visible for the wells in clusters CRT-6 or CRT-7
5. Cluster CRT-8 was not observed during this investigation
6. Measurements taken March 31, 2011, 8:30 to 10:30 AM

7. SUMMARY AND CONCLUSIONS

7.1 Conclusions

EastStar has performed an environmental fill investigation of the former Carteret Landfill (Rahway Arch site) in Carteret, New Jersey for Soil Safe Incorporated. The purpose of this investigation was to determine if the historic fill material identified around the entire site contained elevated concentrations of organic and inorganic contaminants. This was accomplished by:

- Determining likely locations of historic fill used on the site
- Preparing a sampling and analysis plan for the on-site activities
- Digging tests pits into the historic fill
- Visually observing the appearance of the fill and the subsurface conditions
- Collecting and analyzing samples of the historic fill for likely contaminants
- Identifying and gauging the existing groundwater monitoring wells on the site

Visual observation of the site has indicated that the entire property has been impacted either by the alum/YSP sludge that was disposed on the site by American Cyanamid, by fill material meeting the characteristics of historic fill that was used to build, maintain and expand the dikes and operational areas on the site and fill and residues from operations of a Class B facility at the location.

Visual observations of the historic fill material shows that the composition of the material varies over the extent of the site. The fill material ranges from silty sands to dense clays. In some areas, construction and demolition debris, mainly consisting of broken bricks and concrete, are intermingled with the fill. Railroad ties have also been buried under this fill in some areas to provide foundation support over the alum/YSP sludge and the native meadow mat. However, because of the ubiquitous nature of this fill, it is considered one area of concern.

The analytical results from this investigation have shown that much of the historic fill contains PAHs and metals contamination. In some locations the concentrations of these contaminants greatly exceed the New Jersey non-residential remediation standards. Petroleum hydrocarbon contamination was also detected in the historic fill in some locations.

Based upon these results, the site appears to contain wide-spread contamination from both the landfill contents and the historic fill. Statistical analysis of the PAH analysis data shows that the 95% upper confidence level for several PAH compounds greatly exceeds the Non-residential Remediation Standard. As a result, in its current condition, it poses a direct contact hazard preventing future development and potential for ecologic risk.

Without performing a site specific risk assessment, the site is also assumed to create a hazard to both groundwater under the site and surface water which surrounds the site on three sides. Previous studies indicated that 16.57 million gallons of leachate per year migrate from the

landfill to surrounding waters. This leachate was assumed to contain cyanide from the alum-YSP sludge. The results of this fill investigation have documented additional contaminants may now be added to the established cyanide contamination migrating off of the site.

Sixteen groundwater monitoring wells exist on the site in eight pairs of shallow/deep clusters. Depth to groundwater measurements in the shallow wells indicates that groundwater was less than five feet below the ground surface.

7.2 Recommendations

Based upon the results of this fill investigation, combined with the documented results of other site investigations and studies performed on the property over the past 30 years, EastStar recommends that the site be remediated by capping the entire property with a reduced permeability material. This will eliminate any windblown or direct contact exposure pathways to the contamination. The reduced permeability and a proper grading design for the cap will also eliminate impact to groundwater and surface water runoff pathways.

8. REFERENCES

1. *Technical Requirements for Site Remediation*, NJAC 7:26E, last amended February 21, 2011.

2. SESI Consulting Engineers, *Preliminary Assessment Report of American Cyanamid/Cytec Impoundments*, Draft, October 27, 2006.

3. Environmental Data Resources, Inc., *EDR Radius Map Report with GeoCheck of the Rahway Arch Site (former American Cyanamid)*, June 14, 2010.

4. NJDEP, Letter from Kenneth Kloo to Angela Dohl, American Cyanamid Company, with attachments, December 6, 1991.

5. Cytec Industries, *Remedial Action Plan: Operation, Maintenance and Monitoring for Carteret Impoundments, Borough of Carteret, New Jersey*, April 21, 1994.

6. Blasland, Bouck & Lee, Inc., *Remedial Action Plan Addendum: Carteret Impoundments, Borough of Carteret, New Jersey*, revised February 1995.

7. Blasland, Bouck & Lee, Inc., *Remedial Investigation Work Plan: Carteret Impoundments, Borough of Carteret, New Jersey*, December 1993.

8. New Jersey Turnpike Authority, Letter from Kathy Critchley to Thomas J. Irwin, Cytec Industries, with attachments, July 15, 2010.

9. Hydrosystems, Inc., *Environmental Assessment of the Carteret Impoundments, American Cyanamid Company, Linden, New Jersey*, March 10, 1989.

10. NJDEP-Site Remediation Program, *Fill Guidance at SRP Sites*, August 11, 2011.

APPENDICES

APPENDIX A

SAMPLING AND ANALYSIS PLAN

SOIL SAFE INCORPORATED

RAHWAY ARCH SITE – CARTERET. NEW JERSEY

Fill Investigation

Sampling Plan

Introduction

EastStar Environmental Group, Inc., on behalf of Soil Safe Incorporated, will be conducting an investigation of the imported fill material that has been placed on the Rahway Arch Site. The Rahway Arch site is a former unlined, uncapped industrial waste landfill located on the Rahway River in Carteret, New Jersey. Evidence indicates that this fill material has been imported from various sites over a number of years and could be considered historic fill, as defined by the Technical Requirements for Site Remediation (Tech Rule), NJAC 7:26.E.

The Rahway Arch site is approximately 120 acres and consists of six impoundments and surrounding wetlands that were used from 1939 through 1973 by American Cyanamid Corporation to dispose of a mixture of acidic sludge from an alum manufacturing process and alkaline sludge from a yellow prussiate of soda (YSP) manufacturing process. The impoundments were constructed above existing grade with wooden and earthen dikes. They contain approximately 2,000,000 tons of the cyanide containing sludge.

The site was the subject of an administrative consent order (ACO), a remedial investigation (RI) and a declaration of environmental restrictions (DER) in the 1990s. A no further action letter (NFA) was issued for the site in 2002. Files are incomplete regarding the RI and remedial action; however limited studies contained in the RI reports indicate elevated levels of polynuclear aromatic hydrocarbons (PAHs). Based upon its size, the site was not investigated to the extent required in the current Tech Rule guidance. There is no evidence of removal or discussion regarding remediation of PAHs on the site. Similar PAH concentrations were discovered in a subsequent environmental investigation conducted in 2005 by the NJ Turnpike Authority. Soil Safe wants to establish a background for PAHs prior to conducting operations at this location.

Non-sludge fill materials were placed on the site over the years to stabilize the dikes and bulk up the sludge in portions of the impoundments. Areas where fill was placed on the site were identified by review of historic documents regarding the site operations, historic aerial photographs and USGS topographic maps and discussions with the former landfill operator. Based upon information obtained from the former operator, fill was placed in the following locations:

- Berms and roads around portions of Impoundments 2, 3, 4 and 6, including the portions of the berms for Impoundments 3, 4 and 6 that abut the Rahway River. These areas were rebuilt using imported fill base material and were topped with recycled concrete as a wearing surface.

- Berms and roads dividing the internal portions of Impoundments 4, 5 and 6. These areas were rebuilt using railroad ties as a foundation, imported fill as a base material and recycled concrete as a wearing surface.

- Imported fill material mixed with alum/TSP sludge excavated from Impoundment 6 to stabilize the surface in most of Impoundment 2. Adjacent to the berm, this fill was placed on railroad ties. The remainder of the sludge/fill blend was placed directly on the impoundment surface.

- Fill material from a local construction project in the western one third of Impoundment 3

- Hundreds of excess railroad ties not used in the road reconstruction in Impoundment 5

- Digested biosolids (sewage sludge) from Philadelphia and Camden placed on top of the sludge in all of the impoundments to reduce blowing sludge dust and promote vegetative growth.

- Demolition debris from the former American Cyanamid Warner Plant in the berm between Impoundments 3 and 6 and in Impoundment 2.

- Wood and wood chips from a Class B Recycling Facility and processing equipment operated on Impoundment 2 in the 2005-2006 timeframe.

The landfill was never closed. The cyanide containing sludge and imported fill materials in and around the impoundments are exposed. The berms hold precipitation in the impoundments, creating open "bathtub" lagoons. Precipitation that does not evaporate either percolates slowly through the low permeability cyanide containing sludge to groundwater or seeps through the more permeable berms to the surrounding wetlands and riverine habitat.

Purpose and Objectives

Soil Safe's primary objective for the project will be to cover the impoundments with a reduced permeability fill material that will significantly reduce leaching through the sludge and will stabilize the berms. In compliance with the NFA, the fill material will meet New Jersey Non-Residential Direct Contact Soil Remediation Standards (NJ-NRDCSRS) for all constituents with the potential exception of some pre-existing PAHs).

The purpose of this fill investigation is to evaluate and document the existing conditions of the previously imported historic fill material on the site for use in the site permitting and approval process. In accordance with the NFA, the Soil Safe product should not contain any constituents above the non-residential remediation standards that do not already exist at the site. As documented in the Tech Rule, historic fill in New Jersey typically contains concentrations of metals and PAHs above non-residential criteria. These constituents have already been well documented on the site in specific areas. This investigation will determine if the on-site fill material contains these constituents in other areas of the site.

Scope of Work

This fill investigation will consist of:

- Visual characterization of the existing fill materials.

- Collection and analysis of at least 16 soil samples from various on-site locations where fill materials have been used.

- Location of the five existing groundwater monitoring well clusters (10 wells) on the site, measurement of depth to groundwater and determination if the wells can be used for groundwater monitoring.

Contaminants of Concern

Contaminants of concern for this investigation consist of the contaminants typically found in historic fill in New Jersey and contaminants observed on the site. These contaminants of concern are:

- RCRA metals
- Poly-nuclear aromatic hydrocarbons (PAHs)
- Semi-volatile organic compounds (S-VOCs)
- Petroleum hydrocarbons
- Cyanide

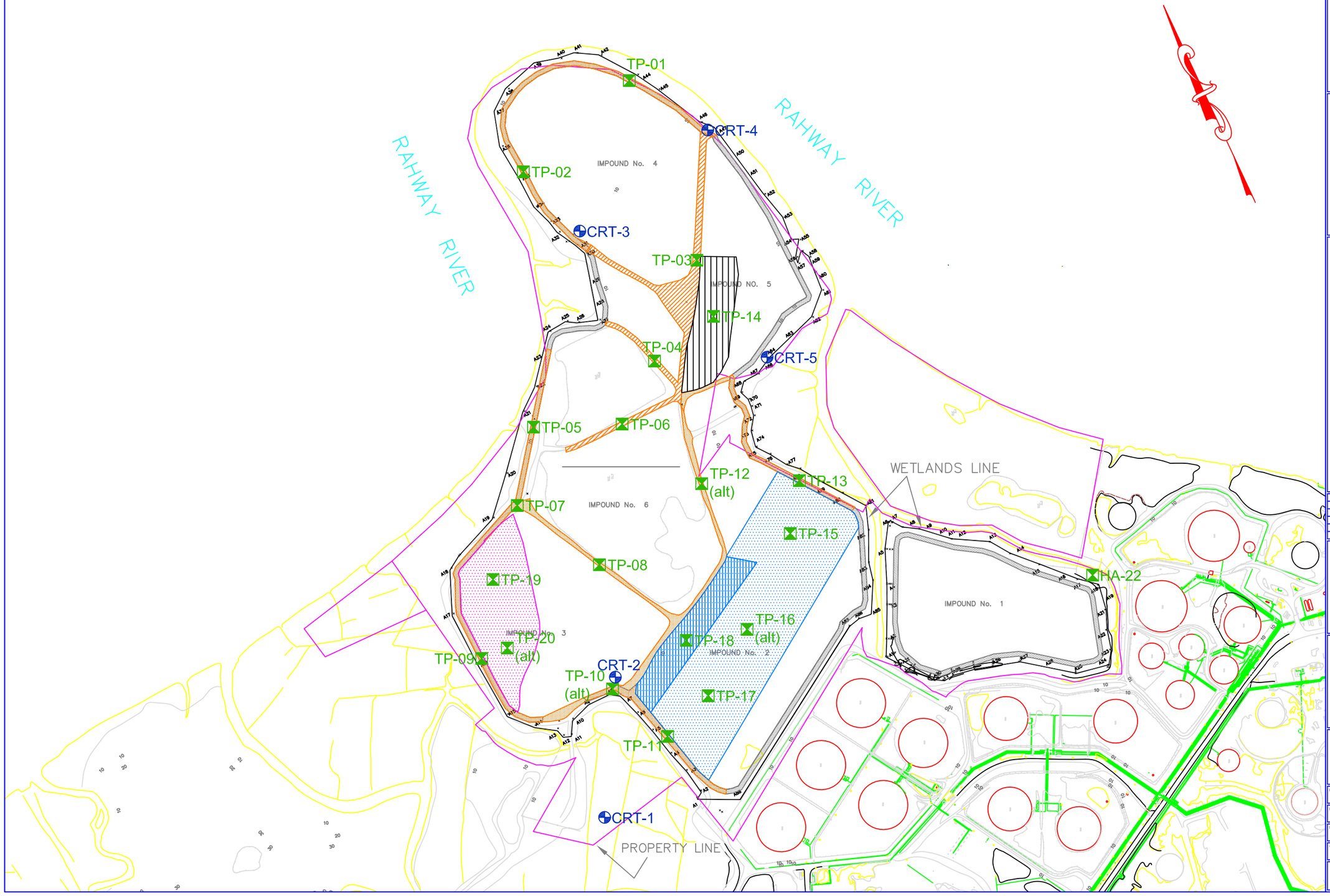
Historic fill may contain metals, PAHs, petroleum hydrocarbons and PCBs. The railroad ties observed on the site will contain wood preservatives including creosote and pentachlorophenol. The sewage sludge applied to the surface of the fill may contain metals and TPH contamination. The abandoned Class B operations areas have documented hydraulic and motor oil spills. Water that seeps through the berms and percolates through the alum-TSP sludge will contain cyanide. Adjacent properties, including an old municipal landfill and petroleum tank farms, are subject to significant remediation actions. PAHs and other organics have been found in the contiguous meadow mat of adjoining properties.

The underlying groundwater is brackish and contains elevated concentrations of cyanide and other constituents. The near surface aquifer is tidally influenced and is classified as a Class III aquifer. The Rahway River has been impacted by both spills and chronic pollution in the past.

Sampling

Soil samples were collected from 16 selected locations on the property. These samples will be collected from various depths ranging from below the recycled concrete wearing surfaces to the base of the historic fill. Four alternate sample locations have been identified in the event any of the 16 proposed sample locations cannot be accessed and sampled. The proposed locations for the test pits are shown on Figure 1.

A small backhoe will be used to dig test pits at the selected sampling locations. At each location, the fill material will be visually characterized and photographed to describe the physical characteristics. These characteristics include presence of rubble, construction/demolition debris or organic materials and classification of the soil. Bulk samples will be collected for documentation and physical analysis, if needed. Sample locations that are not accessible to the backhoe will be sampled with a hand auger.



Soil Safe

Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

Figure 1

Fill Investigation
of
Rahway Arch Property
Carteret, New Jersey

LEGEND

- TP-01 Proposed Test Pit Location
- CRT-4 Existing Monitoring Well Cluster
- Road with Fill over RR Ties
- Road with Fill
- Mixed Fill over RR Ties
- Mixed Fill
- RR Ties
- Construction Fill

EastStar Environmental Group, Inc.
Consulting and Field Services
10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
www.EastStarEnv.com

Figure 1
Sample Location Plan

File Name: Site Sketch.dwg	Scale: 1 Inch = 400 feet
Date: March 22, 2011	Project Number: H019
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

Table 1 – Sampling Locations

Test Pit	Location	Expected Fill Material	Analyses				
			RCRA Metals	PAHs	TPH	S-VOCs	Cyanide
TP-01	Outer berm Impoundment 4	Historic Fill	✓	✓			✓
TP-02	Outer berm Impoundment 4	Historic Fill	✓	✓			✓
TP-03	Berm between Impoundments 4 & 5	Historic Fill Underlain by RR Ties	✓	✓	✓		
TP-04	Perimeter Berm Impoundment6	Historic Fill Underlain by RR Ties	✓	✓			
TP-05	Perimeter Impoundment 6	Historic Fill	✓	✓	✓		✓
TP-06	Interior Berm Impoundment 6	Historic Fill Underlain by RR Ties	✓	✓			
TP-07	Berm between Impoundments 3 & 6	Historic Fill	✓	✓			
TP-08	Berm between Impoundments 3 & 6	Historic Fill	✓	✓			
TP-09	Perimeter Berm Impoundment3	Historic Fill	✓	✓			
TP-11	Perimeter Berm Impoundment4	Historic Fill	✓	✓	✓		
TP-13	Perimeter Berm Impoundment2	Historic Fill	✓	✓	✓		✓
TP-14	Center of RR tie Area Impoundment 5	Historic Fill Impacted by RR Ties	✓			✓	
TP-15	Fill in Impoundment 2	Historic Fill / Class B residues	✓	✓	✓		
TP-17	Fill in Impoundment 2	Historic Fill / Class B residues	✓	✓	✓		
TP-18	Fill with RR Ties in Impoundment 2	Historic Fill Underlain by RR Ties	✓				
TP-19	Fill in Impoundment 3	Historic Fill Jobsite in Carteret	✓	✓	✓		
	Alternate Test Pits						
TP-10	Perimeter Berm Impoundment3	Historic Fill	✓	✓			
TP-12	Berm between Impoundments 2 & 6	Historic Fill	✓	✓			
TP-16	Fill in Impoundment 2	Historic Fill / Class B residues	✓	✓	✓		
TP-20	Fill in Impoundment 3	Historic Fill Jobsite in Carteret	✓	✓	✓		
	Bulk Railroad Tie Sample						
TIE-21	RR tie in Impoundment 5	RR ties Area				✓	
Hand Auger Samples							
HA-22	Impoundment 1 at the runoff ditch	Runoff from adjacent property	✓	✓	✓		

A sample of soil from each test pit will be collected and placed in laboratory sample jars for analysis. All of the samples will be analyzed for RCRA metals and PAHs. Selected samples will also be analyzed for cyanide and S-VOCs. Note that because PAHs are a subset of S-VOCs, separate PAH analyses will not be performed on the samples that are analyzed for S-VOCs. The sample analysis matrix is shown in Table 1.

One additional soil sampled will be collected using a hand auger from the ditch on the southeast side of Impoundment 1. This ditch received run-off from the adjacent tank farm.

In addition to the soil samples, at least one bulk sample will be collected from the piles of RR ties that are in Impoundment 5. This sample will be analyzed for S-VOCs.

A handheld GPS device will be used to determine the latitude and longitude of each sampling location. The depth of the test pit and the depth where the sample was collected will be recorded along with the visual observations.

The test pits will be backfilled with the excavated material and tamped with the backhoe.

Groundwater Well Investigation

There are five clusters of groundwater monitoring wells located on the site. Each cluster consists of two wells, one screened in the shallow groundwater and the other screened in the deeper aquifer. There is no evidence that the wells have been closed or abandoned. The well clusters will be located using the coordinates from the well completion logs.

The condition of the exposed portions of the wells will be recorded. The wells will be opened and the depth to groundwater and the depth to the bottom of the casing will be measured. The depth to bottom of the casing will be compared to the information in the well completion logs to determine if silt has accumulated the wells since they were installed. Groundwater samples will not be collected from the wells at this time.

It is likely that the wells will be locked. Since no keys are available, the locks will be cut to access the wells. The locks will be replaced with new locks upon completion of the observations.

Environmental Analyses

The soil and groundwater samples collected for environmental analysis will be analyzed by a New Jersey NELAP accredited analytical laboratory. The following analytical methods will be used:

- RCRA Metals – EPA Method 6010B/7000
- TPH – EPA Method 8015 Diesel Range Organics
- SVOCs and PAHs – EPA Method 8270
- Cyanide – EPA Method 9010

All of these methods follow the EPA's SW-846 requirements.

Geotechnical Evaluation

All of the test pits will be logged by EastStar personnel. Samples will be retained from all of the test pits for documentation Selected samples from the perimeter berms will be delivered to a geotechnical laboratory for analysis. The following geotechnical analysis will be performed on the samples:

- Atterburg limits
- Grain size distribution

This information will be useful in determining the stability of the berms and the likely amount of infiltration from the impoundments through the berms. Samples anticipated for geotechnical analysis are listed in Table 2.

Report

The results of this investigation will be evaluated to determine the potential contaminants in the historic fill. Following that evaluation, if requested, these results can be documented in a final report. The report would include the following:

- Description of the investigation and on-site activities
- Descriptions of the fill materials observed in the test pits and photographs of the observed conditions
- Description and photographs of leachate breakout outside of perimeter berms
- Summary tables of all environmental analytical results
- Interpretation and analysis of the environmental analytical results
- Results of the groundwater elevation and well depth measurements in the monitoring wells
- Complete analytical report from the environmental laboratory
- Complete geotechnical report from the geotechnical laboratory

Table 2 – Geotechnical Sampling Locations

Test Pit	Location	Expected Fill Material	Analyses	
			Atterburg Limits	Grain Size Distribution
TP-01	Outer berm Impoundment 4	Historic Fill	✓	✓
TP-02	Outer berm Impoundment 4	Historic Fill	✓	✓
TP-05	Perimeter Impoundment 6	Historic Fill	✓	✓
TP-15	Fill in Impoundment 2	Historic Fill	✓	✓

APPENDIX B

TEST PIT LOGS AND PHOTOGRAPHS

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-01 — Date: 3/30/11 — Time: 13:30
Latitude: N40 36.150 — Longitude: W74 12.822
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Reddish brown sandy clay, some gravel
2		
3		
4		
5		
6		
7		
8		
9		
10		Bottom of test pit = 10 ft BGS

Depth to groundwater (ft): none encountered
Sample Collected (ft): 5-6
Sample Number: H019-033011-TP01-016

Photographs

Notes:
Test pit located on outer berm adjacent to trees growing on outside of berm.
Collected bulk sample for future geotechnical analysis.

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EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-02 — Date: 3/30/11 — Time: 13:55
Latitude: N40 36.188 — Longitude: W74 12.954
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown sandy, gravelly, clay
2		
3		
4		Reddish clay. Original berm material
5		
6		
7		Bottom of test pit = 6 ft BGS
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 2-3
Sample Number: H019-033011-TP02-017

Photographs

Notes:
Collected bulk sample for future geotechnical analysis.

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Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-02A — Date: 3/30/11 — Time: 14:15
Latitude: N40 36.094 — Longitude: W74 12.946
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown clayey sand clay on railroad ties
2		Railroad ties
3		Gray and black silty clay - Alum-YSP sludge
4		Bottom of test pit = 3 ft BGS
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 1-2
Sample Number: H019-033011-TP02A-018

Photographs

Notes:
Area is a previously undocumented fill area. Fill was placed in this area to provide access to monitoring well cluster CRT-3.

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Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-03 — Date: 3/30/11 — Time: 13:10
Latitude: N40 36.006 — Longitude: W74 12.886
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown clayey sand, some rocks, some gravel, some debris, traces plywood
2		Railroad ties and traces of plywood
3		Gray and black silty clay - Alum-YSP sludge
4		Bottom of test pit = 3 ft BGS
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered

Sample Collected (ft): 1-2
Sample Number: H019-033011-TP03-015

Photographs

Notes:
Test pit is in the main truck turn-around area. Plywood was used during construction of the turnaround area to provide a stable base to place the fill soil on the alum-YSP sludge. The plywood did not provide the needed support. RR ties were ultimately used here and at other locations to provide the required support.

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Test Pit Log

Project: Rahway Arch Site Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-05 Date: 3/30/11 Time: 11:50
Latitude: N40 35.976 Longitude: W74 13.062
Driller: n/a Log by: Al Free
Method: Backhoe Weight of Hammer: n/a Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown silty, clayey sand, some gravel, some brick fragments. Water seep entering pit at appx 2 ft BGS
2		
3		
4		
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): 2 ft BGS
Sample Collected (ft): 2-3
Sample Number: H019-033011-TP05-010

Photographs

Notes:
Collected bulk sample for future geotechncial analysis

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Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-06 — Date: 3/30/11 — Time: 12:50
Latitude: N40 35.960 — Longitude: W74 12.985
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown clayey sand, some rocks, some debris
2		
3		
4		Rail road ties mixed with Alum-YSP sludge
5		Bottom of test pit = 4 ft BGS
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 3-4
Sample Number: H019-033011-TP06-014

Photographs

Notes:

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EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-07 — Date: 3/30/11 — Time: 11:20
Latitude: N40 35.946 — Longitude: W74 13.106
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Red clay mixed with some black silty clay and light gray clay
2		
3		
4		
5		
6		Bottom of test pit = 5 ft BGS
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 4-5
Sample Number: H019-033011-TP07-009

Photographs

Notes:

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EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-08 — Date: 3/30/11 — Time: 12:10
Latitude: N40 35.796 — Longitude: W74 13.182
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown clayey sand, some gravel, some brick fragments
2		
3		Gray and black silty clay - Alum-YSP sludge
4		Red clay - Native soil under impoundments
5		Bottom of test pit = 4 ft BGS
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered

Sample Collected (ft): 1-2
Sample Number: H019-033011-TP08-011

Photographs

Notes:

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EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-09 — Date: 3/30/11 — Time: 11:00
Latitude: N40 35.891 — Longitude: W74 13.216
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark reddish brown clayey sand, some silt, some gravel
2		
3		
4		Light brown yellow sand. Original berm material
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 2-3
Sample Number: H019-033011-TP09-007

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-10 — Date: 3/30/11 — Time: 10:20
Latitude: N40 35.796 — Longitude: W74 13.182
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Red clay, some gravel
2		
3		
4		
5		
6		Bottom of test pit = 5 ft BGS
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 4-5
Sample Number: H019-033011-TP10-006

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-11 — Date: 3/30/11 — Time: 10:05
Latitude: N40 35.756 — Longitude: W74 13.110
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown silty sand, some clay, some gravel
2		
3		
4		Railroad ties. Bottom of test pit = 3 ft BGS
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 2-3
Sample Number: H019-033011-TP11-005

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com
10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-12 — Date: 3/30/11 — Time: 12:30
Latitude: N40 35.900 — Longitude: W74 12.957
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark brown clayey sand, some gravel, some brick fragments, some debris
2		
3		
4		Red clay - Native soil under impoundments
5		Bottom of test pit = 4 ft BGS
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 1-2
Sample Number: H019-033011-TP12-012

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-12A — Date: 3/30/11 — Time: 12:35
Latitude: N40 35.899 — Longitude: W74 12.953
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Dark red clay on railroad ties
2		Rail road ties
3		Gray and black silty clay - Alum-YSP sludge
4		Bottom of test pit = 3 ft BGS
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 1-2
Sample Number: H019-033011-TP12A-013

Photographs

Notes:
Area is a previously undocumented fill area. Fill was placed in this area to provide an expanded work area and turn-around for trucks offloading into Impoundment 2.

EastStar Environmental Group
www.EastStarEnv.com
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Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-13 — Date: 3/30/11 — Time: 14:40
Latitude: N40 35.913 — Longitude: W74 12.895
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Wet dark brown clayey sand, some gravel. Water accumulated in bottom of test pit.
2		
3		
4		Bottom of test pit = 3 ft BGS
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): 3 ft BGS
Sample Collected (ft): 2-3
Sample Number: H019-033011-TP13-020

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-15 — Date: 3/30/11 — Time: 9:50
Latitude: N40 35.828 — Longitude: W74 12.943
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Black silty sand, some gravel, some brick fragments
2		
3		
4		
5		
6		Bottom of test pit = 5 ft BGS
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 4-5
Sample Number: H019-033011-TP15-004

Photographs

Notes:
Collected bulk sample for future geotechnical analysis.

EastStar Environmental Group
www.EastStarEnv.com
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Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-16 — Date: 3/30/11 — Time: 9:35
Latitude: N40 35.795 — Longitude: W74 12.986
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Reddish brown silty sand, some gravel, some brick fragments. Soil had slight petroleum odor.
2		
3		
4		
5		
6		
7		Bottom of test pit = 6 ft BGS
8		
9		
10		

Depth to groundwater (ft): water observed approximately 6 ft BGS.

Sample Collected (ft): 4-5
Sample Number: H019-033011-TP16-003

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com

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Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-17 — Date: 3/30/11 — Time: 9:15
Latitude: N40 35.788 — Longitude: W74 13.043
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Reddish brown clayey sand, some gravel, some wood, some brick fragments
2		
3		Black silty sand, some gravel, some brick fragments
4		
5		
6		Bottom of test pit = 5 ft BGS
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 3-4
Sample Number: H019-033011-TP17-002

Photographs

Notes:

EastStar Environmental Group
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Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-18 — Date: 3/30/11 — Time: 9:05
Latitude: N40 35.816 — Longitude: W74 13.033
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Black silty sand, some gravel, some brick fragments
2		
3		
4		
5		
6		Bottom of test pit = 5 ft BGS
7		
8		
9		
10		

Depth to groundwater (ft): none encountered
Sample Collected (ft): 4-5
Sample Number: H019-033011-TP18-001

Photographs

Notes:
Test pit in the area of the former Class B wood waste recycling facility.

EastStar Environmental Group
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Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-19 — Date: 3/30/11 — Time: 11:05
Latitude: N40 35.920 — Longitude: W74 13.184
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Red sandy clay mixed with some light brown fine sand
2		
3		
4		Gray and black silty clay - Alum-YSP sludge
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): 3 ft BGS
Sample Collected (ft): 2-3
Sample Number: H019-033011-TP19-008

Photographs

Notes:

EastStar Environmental Group
www.EastStarEnv.com

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Phone: (410) 290-8777 Fax: (410) 290-9055

EastStar

Test Pit Log

Project: Rahway Arch Site — Project No.: H019
Address: Carteret, New Jersey

Test Pit No.: TP-20 — Date: 3/30/11 — Time: 10:45
Latitude: N40 35.902 — Longitude: W74 13.199
Driller: n/a — Log by: Al Free
Method: Backhoe — Weight of Hammer: n/a — Height of Fall: n/a

Soil Description

Depth BGS (ft)	Elevation (ft)	Description
1		Black and gray silty clay - alum/YSP sludge. Water accumulated in test pit.
2		Bottom of test pit = 1 ft BGS
3		
4		
5		
6		
7		
8		
9		
10		

Depth to groundwater (ft): 1 ft BGS
Sample Collected (ft): none
Sample Number: none

Photographs

Notes:
The test pit showed that this location contained virtually no fill. Therefore, no sample was collected.

EastStar Environmental Group
www.EastStarEnv.com
10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

APPENDIX C

PHOTOGRAPHS OF SITE CONDITIONS

Fill Investigation of the Rahway Arch Site
Carteret, New Jersey

Site Photographs

Typical view of site and berms

Berm with tree growth

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Phone: (410) 290-8777 Fax: (410) 290-9055

Fill Investigation of the Rahway Arch Site
Carteret, New Jersey

Site Photographs

Impoundment 6 containing standing water on alum/YSP sludge

Impoundment 6 containing standing water on alum/YSP sludge

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Fill Investigation of the Rahway Arch Site
Carteret, New Jersey

Site Photographs

Stockpile of excess railroad ties

Closeup of stockpile of excess railroad ties

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Phone: (410) 290-8777 Fax: (410) 290-9055

Fill Investigation of the Rahway Arch Site
Carteret, New Jersey

Site Photographs

Area of Impoundment 2 formerly occupied by Class B Recycling Facility

Monitoring well cluster CRT-1

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

Fill Investigation of the Rahway Arch Site
Carteret, New Jersey

Site Photographs

Monitoring Well Cluster CRT-2

Monitoring well cluster CRT-3

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

Fill Investigation of the Rahway Arch Site
Carteret, New Jersey

Site Photographs

Monitoring Well Cluster CRT-6

Monitoring well cluster CRT-7

10632 Little Patuxent Parkway, Suite 106, Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055

APPENDIX D

LABORATORY ANALYSIS REPORT

QC Laboratories

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

04/11/11 01:24pm

JIM GRANT
SOIL SAFE, INC.
378 ROUTE 130 SOUTH
LOGAN TOWNSHIP, NJ 08085

Regarding:
MAUDE
SOIL SAFE, INC.
378 ROUTE 130 SOUTH
LOGAN TOWNSHIP, NJ 08085

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-1 **Sample Description** RAHWAY ARCH, H019-032911-TP18-01 **Samp. Date/Time/Temp** 03/30/11 08:55am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	88.74 %	0.01000 %	04/04/11 03:45PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.125 mg/kg*	04/06/11 10:29AM PG
ARSENIC	EPA 6010C	7.18 mg/kg DRY	0.752 mg/kg*	04/06/11 10:29AM PG
BARIUM	EPA 6010C	57.7 mg/kg DRY	0.0316 mg/kg*	04/06/11 10:29AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0158 mg/kg*	04/06/11 10:29AM PG
CHROMIUM	EPA 6010C	18.3 mg/kg DRY	0.144 mg/kg*	04/06/11 10:29AM PG
LEAD	EPA 6010C	50.3 mg/kg DRY	0.447 mg/kg*	04/06/11 10:29AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.926 mg/kg*	04/06/11 10:29AM PG
MERCURY	EPA 7471A	0.266 mg/kg DRY	0.0349 mg/kg*	04/06/11 03:43PM RBK

Sample Number L3704561-2 **Sample Description** H019-032911-TP17-02 **Samp. Date/Time/Temp** 03/30/11 09:12am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	86.64 %	0.01000 %	04/04/11 03:45PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.128 mg/kg*	04/06/11 10:31AM PG
ARSENIC	EPA 6010C	5.34 mg/kg DRY	0.770 mg/kg*	04/06/11 10:31AM PG
BARIUM	EPA 6010C	170 mg/kg DRY	0.0323 mg/kg*	04/06/11 10:31AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0162 mg/kg*	04/06/11 10:31AM PG
CHROMIUM	EPA 6010C	21.4 mg/kg DRY	0.148 mg/kg*	04/06/11 10:31AM PG
LEAD	EPA 6010C	112 mg/kg DRY	0.458 mg/kg*	04/06/11 10:31AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.949 mg/kg*	04/06/11 10:31AM PG
MERCURY	EPA 7471A	0.848 mg/kg DRY	0.0358 mg/kg*	04/06/11 03:46PM RBK

Thomas J. Hines, President

Serial Number: 1729531

1205 Industrial Blvd., P.O. Box 514, Southampton, PA 18966-0514 Phone: 215-355-3900 Fax: 215-355-7231 www.qclaboratories.com

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-2 H019-032911-TP17-02 03/30/11 09:12am NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	152. J ug/kg DRY	41.8 ug/kg*	04/06/11 07:13PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	40.8 ug/kg*	04/06/11 07:13PM MDJ
ACENAPHTHYLENE	EPA 8270C	66.9 J ug/kg DRY	33.3 ug/kg*	04/06/11 07:13PM MDJ
ACENAPHTHENE	EPA 8270C	298. J ug/kg DRY	34.9 ug/kg*	04/06/11 07:13PM MDJ
FLUORENE	EPA 8270C	302. J ug/kg DRY	39.2 ug/kg*	04/06/11 07:13PM MDJ
PHENANTHRENE	EPA 8270C	2580 ug/kg DRY	44.4 ug/kg*	04/06/11 07:13PM MDJ
ANTHRACENE	EPA 8270C	762. J ug/kg DRY	21.9 ug/kg*	04/06/11 07:13PM MDJ
FLUORANTHENE	EPA 8270C	4390 ug/kg DRY	68.8 ug/kg*	04/06/11 07:13PM MDJ
PYRENE	EPA 8270C	3500 ug/kg DRY	61.4 ug/kg*	04/06/11 07:13PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	2220 ug/kg DRY	62.3 ug/kg*	04/06/11 07:13PM MDJ
CHRYSENE	EPA 8270C	2120 ug/kg DRY	69.7 ug/kg*	04/06/11 07:13PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	1740 ug/kg DRY	57.2 ug/kg*	04/06/11 07:13PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	1740 ug/kg DRY	64.2 ug/kg*	04/06/11 07:13PM MDJ
BENZO(A)PYRENE	EPA 8270C	1970 ug/kg DRY	53.1 ug/kg*	04/06/11 07:13PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	930. J ug/kg DRY	45.7 ug/kg*	04/06/11 07:13PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	533. J ug/kg DRY	54.0 ug/kg*	04/06/11 07:13PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	914. J ug/kg DRY	40.8 ug/kg*	04/06/11 07:13PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	277 mg/kg	04/07/11 05:54PM RRS

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-3 H019-032911-TP16-03 03/30/11 09:35am NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	81.70 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.136 mg/kg*	04/06/11 10:34AM PG
ARSENIC	EPA 6010C	11.0 mg/kg DRY	0.816 mg/kg*	04/06/11 10:34AM PG
BARIUM	EPA 6010C	94.7 mg/kg DRY	0.0343 mg/kg*	04/06/11 10:34AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0171 mg/kg*	04/06/11 10:34AM PG
CHROMIUM	EPA 6010C	18.5 mg/kg DRY	0.157 mg/kg*	04/06/11 10:34AM PG
LEAD	EPA 6010C	173 mg/kg DRY	0.486 mg/kg*	04/06/11 10:34AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	1.01 mg/kg*	04/06/11 10:34AM PG
MERCURY	EPA 7471A	7.61 mg/kg DRY	0.188 mg/kg*	04/06/11 04:21PM RBK

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-3 **Sample Description** H019-032911-TP16-03 **Samp. Date/Time/Temp** 03/30/11 09:35am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	747. J ug/kg DRY	222 ug/kg*	04/06/11 07:38PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	465. J ug/kg DRY	216 ug/kg*	04/06/11 07:38PM MDJ
ACENAPHTHYLENE	EPA 8270C	2240 J ug/kg DRY	176 ug/kg*	04/06/11 07:38PM MDJ
ACENAPHTHENE	EPA 8270C	8070 ug/kg DRY	185 ug/kg*	04/06/11 07:38PM MDJ
FLUORENE	EPA 8270C	9200 ug/kg DRY	208 ug/kg*	04/06/11 07:38PM MDJ
PHENANTHRENE	EPA 8270C	66100 ug/kg DRY	235 ug/kg*	04/06/11 07:38PM MDJ
ANTHRACENE	EPA 8270C	24500 ug/kg DRY	116 ug/kg*	04/06/11 07:38PM MDJ
FLUORANTHENE	EPA 8270C	127000 ug/kg DRY	365 ug/kg*	04/06/11 07:38PM MDJ
PYRENE	EPA 8270C	106000 ug/kg DRY	326 ug/kg*	04/06/11 07:38PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	60200 ug/kg DRY	330 ug/kg*	04/06/11 07:38PM MDJ
CHRYSENE	EPA 8270C	57000 ug/kg DRY	370 ug/kg*	04/06/11 07:38PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	51600 ug/kg DRY	304 ug/kg*	04/06/11 07:38PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	52300 ug/kg DRY	340 ug/kg*	04/06/11 07:38PM MDJ
BENZO(A)PYRENE	EPA 8270C	59300 ug/kg DRY	282 ug/kg*	04/06/11 07:38PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	23200 ug/kg DRY	242 ug/kg*	04/06/11 07:38PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	13500 ug/kg DRY	286 ug/kg*	04/06/11 07:38PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	23100 ug/kg DRY	216 ug/kg*	04/06/11 07:38PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	1530 mg/kg DRY	294 mg/kg	04/07/11 06:27PM RRS

Sample Number L3704561-4 **Sample Description** H019-032911-TP15-04 **Samp. Date/Time/Temp** 03/30/11 09:51am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	81.96 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.135 mg/kg*	04/06/11 10:37AM PG
ARSENIC	EPA 6010C	11.4 mg/kg DRY	0.814 mg/kg*	04/06/11 10:37AM PG
BARIUM	EPA 6010C	154 mg/kg DRY	0.0342 mg/kg*	04/06/11 10:37AM PG
CADMIUM	EPA 6010C	5.91 mg/kg DRY	0.0171 mg/kg*	04/06/11 10:37AM PG
CHROMIUM	EPA 6010C	19.5 mg/kg DRY	0.156 mg/kg*	04/06/11 10:37AM PG
LEAD	EPA 6010C	226 mg/kg DRY	0.484 mg/kg*	04/06/11 10:37AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	1.00 mg/kg*	04/06/11 10:37AM PG
MERCURY	EPA 7471A	0.217 mg/kg DRY	0.0378 mg/kg*	04/06/11 03:50PM RBK

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-4 **Sample Description** H019-032911-TP15-04 **Samp. Date/Time/Temp** 03/30/11 09:51am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	88.4 ug/kg*	04/06/11 08:04PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	86.3 ug/kg*	04/06/11 08:04PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	70.4 ug/kg*	04/06/11 08:04PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	73.8 ug/kg*	04/06/11 08:04PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	82.8 ug/kg*	04/06/11 08:04PM MDJ
PHENANTHRENE	EPA 8270C	376. J ug/kg DRY	93.8 ug/kg*	04/06/11 08:04PM MDJ
ANTHRACENE	EPA 8270C	83.0 J ug/kg DRY	46.3 ug/kg*	04/06/11 08:04PM MDJ
FLUORANTHENE	EPA 8270C	644. J ug/kg DRY	145 ug/kg*	04/06/11 08:04PM MDJ
PYRENE	EPA 8270C	600. J ug/kg DRY	130 ug/kg*	04/06/11 08:04PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	332. J ug/kg DRY	132 ug/kg*	04/06/11 08:04PM MDJ
CHRYSENE	EPA 8270C	425. J ug/kg DRY	147 ug/kg*	04/06/11 08:04PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	464. J ug/kg DRY	121 ug/kg*	04/06/11 08:04PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	278. J ug/kg DRY	136 ug/kg*	04/06/11 08:04PM MDJ
BENZO(A)PYRENE	EPA 8270C	332. J ug/kg DRY	112 ug/kg*	04/06/11 08:04PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	122. J ug/kg DRY	96.6 ug/kg*	04/06/11 08:04PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	114 ug/kg*	04/06/11 08:04PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	137. J ug/kg DRY	86.3 ug/kg*	04/06/11 08:04PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	293 mg/kg	04/07/11 06:59PM RRS

Sample Number L3704561-5 **Sample Description** H019-032911-TP11-05 **Samp. Date/Time/Temp** 03/30/11 10:11am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	87.11 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.127 mg/kg*	04/06/11 10:40AM PG
ARSENIC	EPA 6010C	10.2 mg/kg DRY	0.766 mg/kg*	04/06/11 10:40AM PG
BARIUM	EPA 6010C	261 mg/kg DRY	0.0321 mg/kg*	04/06/11 10:40AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0161 mg/kg*	04/06/11 10:40AM PG
CHROMIUM	EPA 6010C	21.0 mg/kg DRY	0.147 mg/kg*	04/06/11 10:40AM PG
LEAD	EPA 6010C	296 mg/kg DRY	0.456 mg/kg*	04/06/11 10:40AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.944 mg/kg*	04/06/11 10:40AM PG
MERCURY	EPA 7471A	1.47 mg/kg DRY	0.0356 mg/kg*	04/06/11 03:52PM RBK

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-5 **Sample Description** H019-032911-TP11-05 **Samp. Date/Time/Temp** 03/30/11 10:11am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	471. J ug/kg DRY	208 ug/kg*	04/06/11 08:30PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	310. J ug/kg DRY	203 ug/kg*	04/06/11 08:30PM MDJ
ACENAPHTHYLENE	EPA 8270C	195. J ug/kg DRY	166 ug/kg*	04/06/11 08:30PM MDJ
ACENAPHTHENE	EPA 8270C	379. J ug/kg DRY	174 ug/kg*	04/06/11 08:30PM MDJ
FLUORENE	EPA 8270C	482. J ug/kg DRY	195 ug/kg*	04/06/11 08:30PM MDJ
PHENANTHRENE	EPA 8270C	3480 J ug/kg DRY	221 ug/kg*	04/06/11 08:30PM MDJ
ANTHRACENE	EPA 8270C	850. J ug/kg DRY	109 ug/kg*	04/06/11 08:30PM MDJ
FLUORANTHENE	EPA 8270C	5500 J ug/kg DRY	342 ug/kg*	04/06/11 08:30PM MDJ
PYRENE	EPA 8270C	4860 J ug/kg DRY	305 ug/kg*	04/06/11 08:30PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	2510 J ug/kg DRY	310 ug/kg*	04/06/11 08:30PM MDJ
CHRYSENE	EPA 8270C	2660 J ug/kg DRY	347 ug/kg*	04/06/11 08:30PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	2480 J ug/kg DRY	285 ug/kg*	04/06/11 08:30PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	2490 J ug/kg DRY	319 ug/kg*	04/06/11 08:30PM MDJ
BENZO(A)PYRENE	EPA 8270C	2530 J ug/kg DRY	264 ug/kg*	04/06/11 08:30PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	1070 J ug/kg DRY	227 ug/kg*	04/06/11 08:30PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	402. J ug/kg DRY	269 ug/kg*	04/06/11 08:30PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	1160 J ug/kg DRY	203 ug/kg*	04/06/11 08:30PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	276 mg/kg	04/07/11 07:32PM RRS

Sample Number L3704561-6 **Sample Description** H019-032911-TP10-06 **Samp. Date/Time/Temp** 03/30/11 10:26am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	87.95 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.0973 ug/l*	04/06/11 10:43AM PG
ARSENIC	EPA 6010C	6.01 mg/kg DRY	0.553 ug/l*	04/06/11 10:43AM PG
BARIUM	EPA 6010C	114 mg/kg DRY	0.279 ug/l*	04/06/11 10:43AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0256 ug/l*	04/06/11 10:43AM PG
CHROMIUM	EPA 6010C	20.6 mg/kg DRY	0.0529 ug/l*	04/06/11 10:43AM PG
LEAD	EPA 6010C	17.5 mg/kg DRY	0.217 ug/l*	04/06/11 10:43AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.684 ug/l*	04/06/11 10:43AM PG
MERCURY	EPA 7471A	ND mg/kg DRY	0.0352 mg/kg*	04/06/11 03:55PM RBK

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-6 **Sample Description** H019-032911-TP10-06 **Samp. Date/Time/Temp** 03/30/11 10:26am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	82.4 ug/kg*	04/06/11 08:56PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	80.4 ug/kg*	04/06/11 08:56PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	65.6 ug/kg*	04/06/11 08:56PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	68.8 ug/kg*	04/06/11 08:56PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	77.1 ug/kg*	04/06/11 08:56PM MDJ
PHENANTHRENE	EPA 8270C	ND ug/kg DRY	87.4 ug/kg*	04/06/11 08:56PM MDJ
ANTHRACENE	EPA 8270C	ND ug/kg DRY	43.1 ug/kg*	04/06/11 08:56PM MDJ
FLUORANTHENE	EPA 8270C	ND ug/kg DRY	136 ug/kg*	04/06/11 08:56PM MDJ
PYRENE	EPA 8270C	ND ug/kg DRY	121 ug/kg*	04/06/11 08:56PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	ND ug/kg DRY	123 ug/kg*	04/06/11 08:56PM MDJ
CHRYSENE	EPA 8270C	ND ug/kg DRY	137 ug/kg*	04/06/11 08:56PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	113 ug/kg*	04/06/11 08:56PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	126 ug/kg*	04/06/11 08:56PM MDJ
BENZO(A)PYRENE	EPA 8270C	ND ug/kg DRY	105 ug/kg*	04/06/11 08:56PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	90.1 ug/kg*	04/06/11 08:56PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	106 ug/kg*	04/06/11 08:56PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	80.4 ug/kg*	04/06/11 08:56PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	273 mg/kg	04/07/11 08:04PM RRS

Sample Number L3704561-7 **Sample Description** H019-032911-TP09-07 **Samp. Date/Time/Temp** 03/30/11 10:41am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	87.54 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.127 mg/kg*	04/06/11 11:10AM PG
ARSENIC	EPA 6010C	10.1 mg/kg DRY	0.762 mg/kg*	04/06/11 11:10AM PG
BARIUM	EPA 6010C	75.3 mg/kg DRY	0.0320 mg/kg*	04/06/11 11:10AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0160 mg/kg*	04/06/11 11:10AM PG
CHROMIUM	EPA 6010C	13.4 mg/kg DRY	0.146 mg/kg*	04/06/11 11:10AM PG
LEAD	EPA 6010C	792 mg/kg DRY	0.454 mg/kg*	04/06/11 11:10AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.939 mg/kg*	04/06/11 11:10AM PG
MERCURY	EPA 7471A	ND mg/kg DRY	0.0354 mg/kg*	04/06/11 03:57PM RBK

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-7 **Sample Description** H019-032911-TP09-07 **Samp. Date/Time/Temp** 03/30/11 10:41am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	207 ug/kg*	04/06/11 09:22PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	202 ug/kg*	04/06/11 09:22PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	165 ug/kg*	04/06/11 09:22PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	173 ug/kg*	04/06/11 09:22PM MDJ
FLUORENE	EPA 8270C	297. J ug/kg DRY	194 ug/kg*	04/06/11 09:22PM MDJ
PHENANTHRENE	EPA 8270C	1770 J ug/kg DRY	220 ug/kg*	04/06/11 09:22PM MDJ
ANTHRACENE	EPA 8270C	366. J ug/kg DRY	108 ug/kg*	04/06/11 09:22PM MDJ
FLUORANTHENE	EPA 8270C	1720 J ug/kg DRY	340 ug/kg*	04/06/11 09:22PM MDJ
PYRENE	EPA 8270C	1520 J ug/kg DRY	304 ug/kg*	04/06/11 09:22PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	674. J ug/kg DRY	308 ug/kg*	04/06/11 09:22PM MDJ
CHRYSENE	EPA 8270C	800. J ug/kg DRY	345 ug/kg*	04/06/11 09:22PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	514. J ug/kg DRY	283 ug/kg*	04/06/11 09:22PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	503. J ug/kg DRY	318 ug/kg*	04/06/11 09:22PM MDJ
BENZO(A)PYRENE	EPA 8270C	468. J ug/kg DRY	263 ug/kg*	04/06/11 09:22PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	226 ug/kg*	04/06/11 09:22PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	267 ug/kg*	04/06/11 09:22PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	202 ug/kg*	04/06/11 09:22PM MDJ

Sample Number L3704561-8 **Sample Description** H019-032911-TP19-08 **Samp. Date/Time/Temp** 03/30/11 11:03am NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	89.09 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.125 mg/kg*	04/06/11 11:12AM PG
ARSENIC	EPA 6010C	4.34 mg/kg DRY	0.749 mg/kg*	04/06/11 11:12AM PG
BARIUM	EPA 6010C	85.2 mg/kg DRY	0.0314 mg/kg*	04/06/11 11:12AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0157 mg/kg*	04/06/11 11:12AM PG
CHROMIUM	EPA 6010C	20.3 mg/kg DRY	0.144 mg/kg*	04/06/11 11:12AM PG
LEAD	EPA 6010C	26.7 mg/kg DRY	0.446 mg/kg*	04/06/11 11:12AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.923 mg/kg*	04/06/11 11:12AM PG
MERCURY	EPA 7471A	ND mg/kg DRY	0.0348 mg/kg*	04/06/11 03:59PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	81.4 ug/kg*	04/06/11 09:48PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	79.4 ug/kg*	04/06/11 09:48PM MDJ
ACENAPHTHYLENE	EPA 8270C	80.8 J ug/kg DRY	64.7 ug/kg*	04/06/11 09:48PM MDJ
ACENAPHTHENE	EPA 8270C	71.8 J ug/kg DRY	67.9 ug/kg*	04/06/11 09:48PM MDJ
FLUORENE	EPA 8270C	94.3 J ug/kg DRY	76.1 ug/kg*	04/06/11 09:48PM MDJ
PHENANTHRENE	EPA 8270C	1050 J ug/kg DRY	86.3 ug/kg*	04/06/11 09:48PM MDJ
ANTHRACENE	EPA 8270C	269. J ug/kg DRY	42.6 ug/kg*	04/06/11 09:48PM MDJ

Thomas J. Hines, President

Serial Number: 1729531

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-8 H019-032911-TP19-08 03/30/11 11:03am NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES continued				
FLUORANTHENE	EPA 8270C	1680 J ug/kg DRY	134 ug/kg*	04/06/11 09:48PM MDJ
PYRENE	EPA 8270C	2100 J ug/kg DRY	119 ug/kg*	04/06/11 09:48PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	979. J ug/kg DRY	121 ug/kg*	04/06/11 09:48PM MDJ
CHRYSENE	EPA 8270C	1090 J ug/kg DRY	136 ug/kg*	04/06/11 09:48PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	696. J ug/kg DRY	111 ug/kg*	04/06/11 09:48PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	813. J ug/kg DRY	125 ug/kg*	04/06/11 09:48PM MDJ
BENZO(A)PYRENE	EPA 8270C	916. J ug/kg DRY	103 ug/kg*	04/06/11 09:48PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	287. J ug/kg DRY	88.9 ug/kg*	04/06/11 09:48PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	105 ug/kg*	04/06/11 09:48PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	314. J ug/kg DRY	79.4 ug/kg*	04/06/11 09:48PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	269 mg/kg	04/07/11 08:37PM RRS

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-9 H019-032911-TP07-09 03/30/11 11:26am NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	83.91 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.132 mg/kg*	04/06/11 09:21AM PG
ARSENIC	EPA 6010C	6.22 mg/kg DRY	0.795 mg/kg*	04/06/11 09:21AM PG
BARIUM	EPA 6010C	122 mg/kg DRY	0.0334 mg/kg*	04/06/11 09:21AM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0167 mg/kg*	04/06/11 09:21AM PG
CHROMIUM	EPA 6010C	23.2 mg/kg DRY	0.153 mg/kg*	04/06/11 09:21AM PG
LEAD	EPA 6010C	21.5 mg/kg DRY	0.473 mg/kg*	04/06/11 09:21AM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.980 mg/kg*	04/06/11 09:21AM PG
MERCURY	EPA 7471A	ND mg/kg DRY	0.0369 mg/kg*	04/06/11 04:01PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	43.2 ug/kg*	04/06/11 10:14PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	42.1 ug/kg*	04/06/11 10:14PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	34.4 ug/kg*	04/06/11 10:14PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	36.0 ug/kg*	04/06/11 10:14PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	40.4 ug/kg*	04/06/11 10:14PM MDJ
PHENANTHRENE	EPA 8270C	ND ug/kg DRY	45.8 ug/kg*	04/06/11 10:14PM MDJ
ANTHRACENE	EPA 8270C	ND ug/kg DRY	22.6 ug/kg*	04/06/11 10:14PM MDJ
FLUORANTHENE	EPA 8270C	ND ug/kg DRY	71.0 ug/kg*	04/06/11 10:14PM MDJ
PYRENE	EPA 8270C	ND ug/kg DRY	63.4 ug/kg*	04/06/11 10:14PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	ND ug/kg DRY	64.4 ug/kg*	04/06/11 10:14PM MDJ
CHRYSENE	EPA 8270C	ND ug/kg DRY	72.0 ug/kg*	04/06/11 10:14PM MDJ

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-9 H019-032911-TP07-09 03/30/11 11:26am NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES continued				
BENZO(B)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	59.1 ug/kg*	04/06/11 10:14PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	66.3 ug/kg*	04/06/11 10:14PM MDJ
BENZO(A)PYRENE	EPA 8270C	ND ug/kg DRY	54.8 ug/kg*	04/06/11 10:14PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	47.2 ug/kg*	04/06/11 10:14PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	55.8 ug/kg*	04/06/11 10:14PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	42.1 ug/kg*	04/06/11 10:14PM MDJ

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-10 H019-032911-TP05-10 03/30/11 12:03pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
CYANIDE, TOTAL	EPA 9010/9014	11.3 mg/kg DRY	2.84 mg/kg	04/07/11 04:30PM JG
TOTAL SOLIDS PERCENT	SM 2540G	87.94 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.126 mg/kg*	04/08/11 02:20PM PG
ARSENIC	EPA 6010C	6.94 mg/kg DRY	0.758 mg/kg*	04/08/11 02:20PM PG
BARIUM	EPA 6010C	140 mg/kg DRY	0.0318 mg/kg*	04/08/11 02:20PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0159 mg/kg*	04/08/11 02:20PM PG
CHROMIUM	EPA 6010C	23.1 mg/kg DRY	0.146 mg/kg*	04/08/11 02:20PM PG
LEAD	EPA 6010C	190 mg/kg DRY	0.451 mg/kg*	04/08/11 02:20PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.935 mg/kg*	04/08/11 02:20PM PG
MERCURY	EPA 7471A	0.191 mg/kg DRY	0.0353 mg/kg*	04/06/11 03:23PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	341. J ug/kg DRY	206 ug/kg*	04/06/11 10:39PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	341. J ug/kg DRY	201 ug/kg*	04/06/11 10:39PM MDJ
ACENAPHTHYLENE	EPA 8270C	171. J ug/kg DRY	164 ug/kg*	04/06/11 10:39PM MDJ
ACENAPHTHENE	EPA 8270C	318. J ug/kg DRY	172 ug/kg*	04/06/11 10:39PM MDJ
FLUORENE	EPA 8270C	546. J ug/kg DRY	193 ug/kg*	04/06/11 10:39PM MDJ
PHENANTHRENE	EPA 8270C	3530 J ug/kg DRY	219 ug/kg*	04/06/11 10:39PM MDJ
ANTHRACENE	EPA 8270C	932. J ug/kg DRY	108 ug/kg*	04/06/11 10:39PM MDJ
FLUORANTHENE	EPA 8270C	3950 J ug/kg DRY	339 ug/kg*	04/06/11 10:39PM MDJ
PYRENE	EPA 8270C	4410 J ug/kg DRY	302 ug/kg*	04/06/11 10:39PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	2090 J ug/kg DRY	307 ug/kg*	04/06/11 10:39PM MDJ
CHRYSENE	EPA 8270C	2150 J ug/kg DRY	343 ug/kg*	04/06/11 10:39PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	1600 J ug/kg DRY	282 ug/kg*	04/06/11 10:39PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	2070 J ug/kg DRY	316 ug/kg*	04/06/11 10:39PM MDJ
BENZO(A)PYRENE	EPA 8270C	2060 J ug/kg DRY	262 ug/kg*	04/06/11 10:39PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	773. J ug/kg DRY	225 ug/kg*	04/06/11 10:39PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	266 ug/kg*	04/06/11 10:39PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	853. J ug/kg DRY	201 ug/kg*	04/06/11 10:39PM MDJ

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-10 **Sample Description** H019-032911-TP05-10 **Samp. Date/Time/Temp** 03/30/11 12:03pm NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	273 mg/kg	04/07/11 09:09PM RRS

Sample Number L3704561-11 **Sample Description** H019-032911-TP08-11 **Samp. Date/Time/Temp** 03/30/11 12:22pm NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	81.82 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.136 mg/kg*	04/08/11 02:23PM PG
ARSENIC	EPA 6010C	4.05 mg/kg DRY	0.815 mg/kg*	04/08/11 02:23PM PG
BARIUM	EPA 6010C	63.3 mg/kg DRY	0.0342 mg/kg*	04/08/11 02:23PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0171 mg/kg*	04/08/11 02:23PM PG
CHROMIUM	EPA 6010C	15.3 mg/kg DRY	0.156 mg/kg*	04/08/11 02:23PM PG
LEAD	EPA 6010C	44.7 mg/kg DRY	0.485 mg/kg*	04/08/11 02:23PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	1.00 mg/kg*	04/08/11 02:23PM PG
MERCURY	EPA 7471A	ND mg/kg DRY	0.0379 mg/kg*	04/06/11 04:11PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	221 ug/kg*	04/06/11 11:05PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	216 ug/kg*	04/06/11 11:05PM MDJ
ACENAPHTHYLENE	EPA 8270C	782. J ug/kg DRY	176 ug/kg*	04/06/11 11:05PM MDJ
ACENAPHTHENE	EPA 8270C	709. J ug/kg DRY	185 ug/kg*	04/06/11 11:05PM MDJ
FLUORENE	EPA 8270C	1170 J ug/kg DRY	207 ug/kg*	04/06/11 11:05PM MDJ
PHENANTHRENE	EPA 8270C	12100 ug/kg DRY	235 ug/kg*	04/06/11 11:05PM MDJ
ANTHRACENE	EPA 8270C	2980 J ug/kg DRY	116 ug/kg*	04/06/11 11:05PM MDJ
FLUORANTHENE	EPA 8270C	22300 ug/kg DRY	364 ug/kg*	04/06/11 11:05PM MDJ
PYRENE	EPA 8270C	19800 ug/kg DRY	325 ug/kg*	04/06/11 11:05PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	10400 ug/kg DRY	330 ug/kg*	04/06/11 11:05PM MDJ
CHRYSENE	EPA 8270C	10200 ug/kg DRY	369 ug/kg*	04/06/11 11:05PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	8560 ug/kg DRY	303 ug/kg*	04/06/11 11:05PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	10000 ug/kg DRY	340 ug/kg*	04/06/11 11:05PM MDJ
BENZO(A)PYRENE	EPA 8270C	9840 ug/kg DRY	281 ug/kg*	04/06/11 11:05PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	3520 J ug/kg DRY	242 ug/kg*	04/06/11 11:05PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	1640 J ug/kg DRY	286 ug/kg*	04/06/11 11:05PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	3590 J ug/kg DRY	216 ug/kg*	04/06/11 11:05PM MDJ

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-12 H019-032911-TP12-12 03/30/11 12:42pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	81.93 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.135 mg/kg*	04/08/11 02:26PM PG
ARSENIC	EPA 6010C	6.14 mg/kg DRY	0.814 mg/kg*	04/08/11 02:26PM PG
BARIUM	EPA 6010C	95.1 mg/kg DRY	0.0342 mg/kg*	04/08/11 02:26PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0171 mg/kg*	04/08/11 02:26PM PG
CHROMIUM	EPA 6010C	29.5 mg/kg DRY	0.156 mg/kg*	04/08/11 02:26PM PG
LEAD	EPA 6010C	55.8 mg/kg DRY	0.485 mg/kg*	04/08/11 02:26PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	1.00 mg/kg*	04/08/11 02:26PM PG
MERCURY	EPA 7471A	0.0537 B mg/kg DRY	0.0378 mg/kg*	04/06/11 04:13PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	44.2 ug/kg*	04/06/11 11:30PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	43.2 ug/kg*	04/06/11 11:30PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	35.2 ug/kg*	04/06/11 11:30PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	36.9 ug/kg*	04/06/11 11:30PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	41.4 ug/kg*	04/06/11 11:30PM MDJ
PHENANTHRENE	EPA 8270C	95.2 J ug/kg DRY	46.9 ug/kg*	04/06/11 11:30PM MDJ
ANTHRACENE	EPA 8270C	29.3 J ug/kg DRY	23.1 ug/kg*	04/06/11 11:30PM MDJ
FLUORANTHENE	EPA 8270C	181. J ug/kg DRY	72.7 ug/kg*	04/06/11 11:30PM MDJ
PYRENE	EPA 8270C	200. J ug/kg DRY	64.9 ug/kg*	04/06/11 11:30PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	112. J ug/kg DRY	65.9 ug/kg*	04/06/11 11:30PM MDJ
CHRYSENE	EPA 8270C	127. J ug/kg DRY	73.7 ug/kg*	04/06/11 11:30PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	142. J ug/kg DRY	60.5 ug/kg*	04/06/11 11:30PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	115. J ug/kg DRY	67.9 ug/kg*	04/06/11 11:30PM MDJ
BENZO(A)PYRENE	EPA 8270C	97.6 J ug/kg DRY	56.1 ug/kg*	04/06/11 11:30PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	48.3 ug/kg*	04/06/11 11:30PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	57.1 ug/kg*	04/06/11 11:30PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	43.2 ug/kg*	04/06/11 11:30PM MDJ

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-13 H019-032911-TP12A-13 03/30/11 12:42pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	86.75 %	0.01000 %	04/04/11 04:05PM JEG

Serial Number: 1729531

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-13 H019-032911-TP12A-13 03/30/11 12:42pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.128 mg/kg*	04/08/11 02:28PM PG
ARSENIC	EPA 6010C	5.84 mg/kg DRY	0.769 mg/kg*	04/08/11 02:28PM PG
BARIUM	EPA 6010C	339 mg/kg DRY	0.0323 mg/kg*	04/08/11 02:28PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0161 mg/kg*	04/08/11 02:28PM PG
CHROMIUM	EPA 6010C	18.9 mg/kg DRY	0.148 mg/kg*	04/08/11 02:28PM PG
LEAD	EPA 6010C	142 mg/kg DRY	0.458 mg/kg*	04/08/11 02:28PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.948 mg/kg*	04/08/11 02:28PM PG
MERCURY	EPA 7471A	0.148 mg/kg DRY	0.0357 mg/kg*	04/06/11 04:15PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	209 ug/kg*	04/06/11 11:56PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	204 ug/kg*	04/06/11 11:56PM MDJ
ACENAPHTHYLENE	EPA 8270C	219. J ug/kg DRY	166 ug/kg*	04/06/11 11:56PM MDJ
ACENAPHTHENE	EPA 8270C	323. J ug/kg DRY	174 ug/kg*	04/06/11 11:56PM MDJ
FLUORENE	EPA 8270C	254. J ug/kg DRY	196 ug/kg*	04/06/11 11:56PM MDJ
PHENANTHRENE	EPA 8270C	4080 J ug/kg DRY	222 ug/kg*	04/06/11 11:56PM MDJ
ANTHRACENE	EPA 8270C	1240 J ug/kg DRY	109 ug/kg*	04/06/11 11:56PM MDJ
FLUORANTHENE	EPA 8270C	12900 ug/kg DRY	344 ug/kg*	04/06/11 11:56PM MDJ
PYRENE	EPA 8270C	12900 ug/kg DRY	307 ug/kg*	04/06/11 11:56PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	6880 ug/kg DRY	311 ug/kg*	04/06/11 11:56PM MDJ
CHRYSENE	EPA 8270C	6860 ug/kg DRY	348 ug/kg*	04/06/11 11:56PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	7040 ug/kg DRY	286 ug/kg*	04/06/11 11:56PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	6580 ug/kg DRY	320 ug/kg*	04/06/11 11:56PM MDJ
BENZO(A)PYRENE	EPA 8270C	6710 ug/kg DRY	265 ug/kg*	04/06/11 11:56PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	2760 J ug/kg DRY	228 ug/kg*	04/06/11 11:56PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	1420 J ug/kg DRY	270 ug/kg*	04/06/11 11:56PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	2740 J ug/kg DRY	204 ug/kg*	04/06/11 11:56PM MDJ

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-14 H019-032911-TP06-14 03/30/11 12:55pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	90.43 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.123 mg/kg*	04/08/11 02:30PM PG
ARSENIC	EPA 6010C	5.52 mg/kg DRY	0.738 mg/kg*	04/08/11 02:30PM PG
BARIUM	EPA 6010C	51.3 mg/kg DRY	0.0310 mg/kg*	04/08/11 02:30PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0155 mg/kg*	04/08/11 02:30PM PG
CHROMIUM	EPA 6010C	13.0 mg/kg DRY	0.142 mg/kg*	04/08/11 02:30PM PG
LEAD	EPA 6010C	66.0 mg/kg DRY	0.439 mg/kg*	04/08/11 02:30PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.909 mg/kg*	04/08/11 02:30PM PG

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-14 **Sample Description** H019-032911-TP06-14 **Samp. Date/Time/Temp** 03/30/11 12:55pm NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
METALS continued				
MERCURY	EPA 7471A	ND mg/kg DRY	0.0343 mg/kg*	04/06/11 04:17PM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	200 ug/kg*	04/07/11 12:21AM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	196 ug/kg*	04/07/11 12:21AM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	159 ug/kg*	04/07/11 12:21AM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	167 ug/kg*	04/07/11 12:21AM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	188 ug/kg*	04/07/11 12:21AM MDJ
PHENANTHRENE	EPA 8270C	ND ug/kg DRY	213 ug/kg*	04/07/11 12:21AM MDJ
ANTHRACENE	EPA 8270C	ND ug/kg DRY	105 ug/kg*	04/07/11 12:21AM MDJ
FLUORANTHENE	EPA 8270C	ND ug/kg DRY	330 ug/kg*	04/07/11 12:21AM MDJ
PYRENE	EPA 8270C	354. J ug/kg DRY	294 ug/kg*	04/07/11 12:21AM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	ND ug/kg DRY	299 ug/kg*	04/07/11 12:21AM MDJ
CHRYSENE	EPA 8270C	ND ug/kg DRY	334 ug/kg*	04/07/11 12:21AM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	274 ug/kg*	04/07/11 12:21AM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	307 ug/kg*	04/07/11 12:21AM MDJ
BENZO(A)PYRENE	EPA 8270C	ND ug/kg DRY	254 ug/kg*	04/07/11 12:21AM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	219 ug/kg*	04/07/11 12:21AM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	259 ug/kg*	04/07/11 12:21AM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	196 ug/kg*	04/07/11 12:21AM MDJ

Sample Number L3704561-15 **Sample Description** H019-032911-TP03-15 **Samp. Date/Time/Temp** 03/30/11 01:17pm NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	90.96 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.122 mg/kg*	04/08/11 02:33PM PG
ARSENIC	EPA 6010C	5.94 mg/kg DRY	0.733 mg/kg*	04/08/11 02:33PM PG
BARIUM	EPA 6010C	75.4 mg/kg DRY	0.0308 mg/kg*	04/08/11 02:33PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0154 mg/kg*	04/08/11 02:33PM PG
CHROMIUM	EPA 6010C	22.5 mg/kg DRY	0.141 mg/kg*	04/08/11 02:33PM PG
LEAD	EPA 6010C	45.1 mg/kg DRY	0.436 mg/kg*	04/08/11 02:33PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.904 mg/kg*	04/08/11 02:33PM PG
MERCURY	EPA 7471A	0.211 mg/kg DRY	0.0341 mg/kg*	04/06/11 04:19PM RBK

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number L3704561-15 **Sample Description** H019-032911-TP03-15 **Samp. Date/Time/Temp** 03/30/11 01:17pm NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	120 ug/kg*	04/07/11 01:37AM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	117 ug/kg*	04/07/11 01:37AM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	95.1 ug/kg*	04/07/11 01:37AM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	99.7 ug/kg*	04/07/11 01:37AM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	112 ug/kg*	04/07/11 01:37AM MDJ
PHENANTHRENE	EPA 8270C	178. J ug/kg DRY	127 ug/kg*	04/07/11 01:37AM MDJ
ANTHRACENE	EPA 8270C	ND ug/kg DRY	62.5 ug/kg*	04/07/11 01:37AM MDJ
FLUORANTHENE	EPA 8270C	482. J ug/kg DRY	197 ug/kg*	04/07/11 01:37AM MDJ
PYRENE	EPA 8270C	594. J ug/kg DRY	175 ug/kg*	04/07/11 01:37AM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	303. J ug/kg DRY	178 ug/kg*	04/07/11 01:37AM MDJ
CHRYSENE	EPA 8270C	343. J ug/kg DRY	199 ug/kg*	04/07/11 01:37AM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	350. J ug/kg DRY	164 ug/kg*	04/07/11 01:37AM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	323. J ug/kg DRY	183 ug/kg*	04/07/11 01:37AM MDJ
BENZO(A)PYRENE	EPA 8270C	277. J ug/kg DRY	152 ug/kg*	04/07/11 01:37AM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	131 ug/kg*	04/07/11 01:37AM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	154 ug/kg*	04/07/11 01:37AM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	117 ug/kg*	04/07/11 01:37AM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	264 mg/kg	04/07/11 09:42PM RRS

Sample Number L3704561-16 **Sample Description** H019-032911-TP01-16 **Samp. Date/Time/Temp** 03/30/11 01:43pm NA F **Sampled by** Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
CYANIDE, TOTAL	EPA 9010/9014	ND mg/kg DRY	2.84 mg/kg	04/07/11 04:30PM JG
TOTAL SOLIDS PERCENT	SM 2540G	88.06 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.126 mg/kg*	04/08/11 02:37PM PG
ARSENIC	EPA 6010C	5.33 mg/kg DRY	0.757 mg/kg*	04/08/11 02:37PM PG
BARIUM	EPA 6010C	105 mg/kg DRY	0.0318 mg/kg*	04/08/11 02:37PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0159 mg/kg*	04/08/11 02:37PM PG
CHROMIUM	EPA 6010C	22.6 mg/kg DRY	0.145 mg/kg*	04/08/11 02:37PM PG
LEAD	EPA 6010C	18.5 mg/kg DRY	0.451 mg/kg*	04/08/11 02:37PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.933 mg/kg*	04/08/11 02:37PM PG
MERCURY	EPA 7471A	0.333 mg/kg DRY	0.0351 mg/kg*	04/08/11 11:28AM RBK

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-16 H019-032911-TP01-16 03/30/11 01:43pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	41.2 ug/kg*	04/07/11 02:03AM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	40.2 ug/kg*	04/07/11 02:03AM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	32.8 ug/kg*	04/07/11 02:03AM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	34.3 ug/kg*	04/07/11 02:03AM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	38.5 ug/kg*	04/07/11 02:03AM MDJ
PHENANTHRENE	EPA 8270C	120. J ug/kg DRY	43.7 ug/kg*	04/07/11 02:03AM MDJ
ANTHRACENE	EPA 8270C	34.1 J ug/kg DRY	21.5 ug/kg*	04/07/11 02:03AM MDJ
FLUORANTHENE	EPA 8270C	191. J ug/kg DRY	67.7 ug/kg*	04/07/11 02:03AM MDJ
PYRENE	EPA 8270C	213. J ug/kg DRY	60.4 ug/kg*	04/07/11 02:03AM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	90.8 J ug/kg DRY	61.3 ug/kg*	04/07/11 02:03AM MDJ
CHRYSENE	EPA 8270C	95.4 J ug/kg DRY	68.6 ug/kg*	04/07/11 02:03AM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	93.1 J ug/kg DRY	56.3 ug/kg*	04/07/11 02:03AM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	74.9 J ug/kg DRY	63.1 ug/kg*	04/07/11 02:03AM MDJ
BENZO(A)PYRENE	EPA 8270C	88.6 J ug/kg DRY	52.2 ug/kg*	04/07/11 02:03AM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	45.0 ug/kg*	04/07/11 02:03AM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	53.1 ug/kg*	04/07/11 02:03AM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	40.2 ug/kg*	04/07/11 02:03AM MDJ

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-17 H019-032911-TP02-17 03/30/11 02:00pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
CYANIDE, TOTAL	EPA 9010/9014	ND mg/kg DRY	2.87 mg/kg	04/07/11 04:30PM JG
TOTAL SOLIDS PERCENT	SM 2540G	87.15 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.127 mg/kg*	04/08/11 02:39PM PG
ARSENIC	EPA 6010C	8.76 mg/kg DRY	0.765 mg/kg*	04/08/11 02:39PM PG
BARIUM	EPA 6010C	101 mg/kg DRY	0.0321 mg/kg*	04/08/11 02:39PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0161 mg/kg*	04/08/11 02:39PM PG
CHROMIUM	EPA 6010C	20.3 mg/kg DRY	0.147 mg/kg*	04/08/11 02:39PM PG
LEAD	EPA 6010C	172 mg/kg DRY	0.456 mg/kg*	04/08/11 02:39PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.943 mg/kg*	04/08/11 02:39PM PG
MERCURY	EPA 7471A	0.683 mg/kg DRY	0.0355 mg/kg*	04/08/11 11:19AM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	208 ug/kg*	04/07/11 07:22PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	203 ug/kg*	04/07/11 07:22PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	165 ug/kg*	04/07/11 07:22PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	173 ug/kg*	04/07/11 07:22PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	195 ug/kg*	04/07/11 07:22PM MDJ
PHENANTHRENE	EPA 8270C	746. J ug/kg DRY	221 ug/kg*	04/07/11 07:22PM MDJ

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-17 H019-032911-TP02-17 03/30/11 02:00pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES continued				
ANTHRACENE	EPA 8270C	161. J ug/kg DRY	109 ug/kg*	04/07/11 07:22PM MDJ
FLUORANTHENE	EPA 8270C	1180 J ug/kg DRY	342 ug/kg*	04/07/11 07:22PM MDJ
PYRENE	EPA 8270C	1070 J ug/kg DRY	305 ug/kg*	04/07/11 07:22PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	608. J ug/kg DRY	310 ug/kg*	04/07/11 07:22PM MDJ
CHRYSENE	EPA 8270C	711. J ug/kg DRY	347 ug/kg*	04/07/11 07:22PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	700. J ug/kg DRY	285 ug/kg*	04/07/11 07:22PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	448. J ug/kg DRY	319 ug/kg*	04/07/11 07:22PM MDJ
BENZO(A)PYRENE	EPA 8270C	608. J ug/kg DRY	264 ug/kg*	04/07/11 07:22PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	287. J ug/kg DRY	227 ug/kg*	04/07/11 07:22PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	269 ug/kg*	04/07/11 07:22PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	241. J ug/kg DRY	203 ug/kg*	04/07/11 07:22PM MDJ

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-18 H019-032911-TP02A-18 03/30/11 02:23pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	89.08 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.125 mg/kg*	04/08/11 02:42PM PG
ARSENIC	EPA 6010C	4.68 mg/kg DRY	0.749 mg/kg*	04/08/11 02:42PM PG
BARIUM	EPA 6010C	258 mg/kg DRY	0.0314 mg/kg*	04/08/11 02:42PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0157 mg/kg*	04/08/11 02:42PM PG
CHROMIUM	EPA 6010C	26.0 mg/kg DRY	0.144 mg/kg*	04/08/11 02:42PM PG
LEAD	EPA 6010C	102 mg/kg DRY	0.446 mg/kg*	04/08/11 02:42PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.923 mg/kg*	04/08/11 02:42PM PG
MERCURY	EPA 7471A	0.101 B mg/kg DRY	0.0347 mg/kg*	04/08/11 11:30AM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	40.7 ug/kg*	04/07/11 07:47PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	39.7 ug/kg*	04/07/11 07:47PM MDJ
ACENAPHTHYLENE	EPA 8270C	85.3 J ug/kg DRY	32.4 ug/kg*	04/07/11 07:47PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	33.9 ug/kg*	04/07/11 07:47PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	38.1 ug/kg*	04/07/11 07:47PM MDJ
PHENANTHRENE	EPA 8270C	344. J ug/kg DRY	43.2 ug/kg*	04/07/11 07:47PM MDJ
ANTHRACENE	EPA 8270C	67.4 J ug/kg DRY	21.3 ug/kg*	04/07/11 07:47PM MDJ
FLUORANTHENE	EPA 8270C	788. J ug/kg DRY	66.9 ug/kg*	04/07/11 07:47PM MDJ
PYRENE	EPA 8270C	739. J ug/kg DRY	59.7 ug/kg*	04/07/11 07:47PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	411. J ug/kg DRY	60.6 ug/kg*	04/07/11 07:47PM MDJ
CHRYSENE	EPA 8270C	460. J ug/kg DRY	67.8 ug/kg*	04/07/11 07:47PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	496. J ug/kg DRY	55.7 ug/kg*	04/07/11 07:47PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	391. J ug/kg DRY	62.4 ug/kg*	04/07/11 07:47PM MDJ
BENZO(A)PYRENE	EPA 8270C	447. J ug/kg DRY	51.6 ug/kg*	04/07/11 07:47PM MDJ

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-18 H019-032911-TP02A-18 03/30/11 02:23pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES continued				
INDENO(1,2,3-CD)PYRENE	EPA 8270C	220. J ug/kg DRY	44.5 ug/kg*	04/07/11 07:47PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	71.8 J ug/kg DRY	52.5 ug/kg*	04/07/11 07:47PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	247. J ug/kg DRY	39.7 ug/kg*	04/07/11 07:47PM MDJ

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-19 H019-032911-TP14-19 03/30/11 02:31pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	51.26 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.217 mg/kg*	04/08/11 02:45PM PG
ARSENIC	EPA 6010C	9.97 mg/kg DRY	1.30 mg/kg*	04/08/11 02:45PM PG
BARIUM	EPA 6010C	236 mg/kg DRY	0.0546 mg/kg*	04/08/11 02:45PM PG
CADMIUM	EPA 6010C	0.179 B mg/kg DRY	0.0273 mg/kg*	04/08/11 02:45PM PG
CHROMIUM	EPA 6010C	10.1 mg/kg DRY	0.250 mg/kg*	04/08/11 02:45PM PG
LEAD	EPA 6010C	100 mg/kg DRY	0.774 mg/kg*	04/08/11 02:45PM PG
SELENIUM	EPA 6010C	2.18 B mg/kg DRY	1.60 mg/kg*	04/08/11 02:45PM PG
MERCURY	EPA 7471A	1.17 mg/kg DRY	0.0603 mg/kg*	04/08/11 11:31AM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
N-NITROSODIMETHYLAMINE	EPA 8270C	ND ug/kg DRY	383 ug/kg*	04/07/11 08:13PM MDJ
BIS(2-CHLOROETHYL)ETHER	EPA 8270C	ND ug/kg DRY	385 ug/kg*	04/07/11 08:13PM MDJ
ANILINE	EPA 8270C	ND ug/kg DRY	285 ug/kg*	04/07/11 08:13PM MDJ
PHENOL	EPA 8270C	ND ug/kg DRY	250 ug/kg*	04/07/11 08:13PM MDJ
2-CHLOROPHENOL	EPA 8270C	ND ug/kg DRY	272 ug/kg*	04/07/11 08:13PM MDJ
1,3-DICHLOROBENZENE	EPA 8270C	ND ug/kg DRY	404 ug/kg*	04/07/11 08:13PM MDJ
1,4-DICHLOROBENZENE	EPA 8270C	ND ug/kg DRY	425 ug/kg*	04/07/11 08:13PM MDJ
1,2-DICHLOROBENZENE	EPA 8270C	ND ug/kg DRY	411 ug/kg*	04/07/11 08:13PM MDJ
BENZYL ALCOHOL	EPA 8270C	ND ug/kg DRY	255 ug/kg*	04/07/11 08:13PM MDJ
BIS(2-CHLOROISOPROPYL)ETHER	EPA 8270C	ND ug/kg DRY	403 ug/kg*	04/07/11 08:13PM MDJ
2-METHYLPHENOL	EPA 8270C	ND ug/kg DRY	272 ug/kg*	04/07/11 08:13PM MDJ
HEXACHLOROETHANE	EPA 8270C	ND ug/kg DRY	299 ug/kg*	04/07/11 08:13PM MDJ
N-NITROSO-DI-N-PROPYLAMINE	EPA 8270C	ND ug/kg DRY	218 ug/kg*	04/07/11 08:13PM MDJ
3&4-METHYLPHENOL	EPA 8270C	ND ug/kg DRY	414 ug/kg*	04/07/11 08:13PM MDJ
NITROBENZENE	EPA 8270C	ND ug/kg DRY	391 ug/kg*	04/07/11 08:13PM MDJ
ISOPHORONE	EPA 8270C	ND ug/kg DRY	214 ug/kg*	04/07/11 08:13PM MDJ
2-NITROPHENOL	EPA 8270C	ND ug/kg DRY	272 ug/kg*	04/07/11 08:13PM MDJ
2,4-DIMETHYLPHENOL	EPA 8270C	ND ug/kg DRY	222 ug/kg*	04/07/11 08:13PM MDJ
BIS(2-CHLOROETHOXY)METHANE	EPA 8270C	ND ug/kg DRY	277 ug/kg*	04/07/11 08:13PM MDJ
2,4-DICHLOROPHENOL	EPA 8270C	ND ug/kg DRY	471 ug/kg*	04/07/11 08:13PM MDJ
BENZOIC ACID	EPA 8270C	ND ug/kg DRY	5110 ug/kg*	04/07/11 08:13PM MDJ
1,2,4-TRICHLOROBENZENE	EPA 8270C	ND ug/kg DRY	382 ug/kg*	04/07/11 08:13PM MDJ

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-19 H019-032911-TP14-19 03/30/11 02:31pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES continued

Parameter	Method	Result	RLs	Test Date, Time, Analyst
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	366 ug/kg*	04/07/11 08:13PM MDJ
4-CHLOROANILINE	EPA 8270C	ND ug/kg DRY	236 ug/kg*	04/07/11 08:13PM MDJ
HEXACHLOROBUTADIENE	EPA 8270C	ND ug/kg DRY	396 ug/kg*	04/07/11 08:13PM MDJ
4-CHLORO-3-METHYLPHENOL	EPA 8270C	ND ug/kg DRY	224 ug/kg*	04/07/11 08:13PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	298 ug/kg*	04/07/11 08:13PM MDJ
HEXACHLOROCYCLOPENTADIENE	EPA 8270C	ND ug/kg DRY	221 ug/kg*	04/07/11 08:13PM MDJ
2,4,6-TRICHLOROPHENOL	EPA 8270C	ND ug/kg DRY	236 ug/kg*	04/07/11 08:13PM MDJ
2,4,5-TRICHLOROPHENOL	EPA 8270C	ND ug/kg DRY	241 ug/kg*	04/07/11 08:13PM MDJ
2-CHLORONAPHTHALENE	EPA 8270C	ND ug/kg DRY	247 ug/kg*	04/07/11 08:13PM MDJ
2-NITROANILINE	EPA 8270C	ND ug/kg DRY	272 ug/kg*	04/07/11 08:13PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	264 ug/kg*	04/07/11 08:13PM MDJ
DIMETHYLPHTHALATE	EPA 8270C	1130 JB ug/kg DRY	668 ug/kg*	04/07/11 08:13PM MDJ
2,6-DINITROTOLUENE	EPA 8270C	ND ug/kg DRY	299 ug/kg*	04/07/11 08:13PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	325 ug/kg*	04/07/11 08:13PM MDJ
3-NITROANILINE	EPA 8270C	ND ug/kg DRY	306 ug/kg*	04/07/11 08:13PM MDJ
2,4-DINITROPHENOL	EPA 8270C	ND ug/kg DRY	1070 ug/kg*	04/07/11 08:13PM MDJ
DIBENZOFURAN	EPA 8270C	ND ug/kg DRY	311 ug/kg*	04/07/11 08:13PM MDJ
2,4-DINITROTOLUENE	EPA 8270C	ND ug/kg DRY	308 ug/kg*	04/07/11 08:13PM MDJ
4-NITROPHENOL	EPA 8270C	ND ug/kg DRY	261 ug/kg*	04/07/11 08:13PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	232 ug/kg*	04/07/11 08:13PM MDJ
4-CHLOROPHENYL-PHENYLETHER	EPA 8270C	ND ug/kg DRY	275 ug/kg*	04/07/11 08:13PM MDJ
DIETHYLPHTHALATE	EPA 8270C	ND ug/kg DRY	261 ug/kg*	04/07/11 08:13PM MDJ
4-NITROANILINE	EPA 8270C	ND ug/kg DRY	245 ug/kg*	04/07/11 08:13PM MDJ
4,6-DINITRO-2-METHYLPHENOL	EPA 8270C	ND ug/kg DRY	217 ug/kg*	04/07/11 08:13PM MDJ
N-NITROSODIPHENYLAMINE	EPA 8270C	ND ug/kg DRY	441 ug/kg*	04/07/11 08:13PM MDJ
1,2-DIPHENYLHYDRAZINE	EPA 8270C	ND ug/kg DRY	238 ug/kg*	04/07/11 08:13PM MDJ
4-BROMOPHENYL-PHENYLETHER	EPA 8270C	ND ug/kg DRY	236 ug/kg*	04/07/11 08:13PM MDJ
HEXACHLOROBENZENE	EPA 8270C	ND ug/kg DRY	289 ug/kg*	04/07/11 08:13PM MDJ
PENTACHLOROPHENOL	EPA 8270C	ND ug/kg DRY	349 ug/kg*	04/07/11 08:13PM MDJ
PHENANTHRENE	EPA 8270C	ND ug/kg DRY	250 ug/kg*	04/07/11 08:13PM MDJ
ANTHRACENE	EPA 8270C	ND ug/kg DRY	350 ug/kg*	04/07/11 08:13PM MDJ
CARBAZOLE	EPA 8270C	ND ug/kg DRY	275 ug/kg*	04/07/11 08:13PM MDJ
DI-N-BUTYLPHTHALATE	EPA 8270C	ND ug/kg DRY	240 ug/kg*	04/07/11 08:13PM MDJ
FLUORANTHENE	EPA 8270C	308. J ug/kg DRY	227 ug/kg*	04/07/11 08:13PM MDJ
BENZIDINE	EPA 8270C	ND ug/kg DRY	2920 ug/kg*	04/07/11 08:13PM MDJ
PYRENE	EPA 8270C	ND ug/kg DRY	279 ug/kg*	04/07/11 08:13PM MDJ
BUTYLBENZYLPHTHALATE	EPA 8270C	ND ug/kg DRY	258 ug/kg*	04/07/11 08:13PM MDJ
3,3'-DICHLOROBENZIDINE	EPA 8270C	ND ug/kg DRY	297 ug/kg*	04/07/11 08:13PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	ND ug/kg DRY	252 ug/kg*	04/07/11 08:13PM MDJ
CHRYSENE	EPA 8270C	ND ug/kg DRY	241 ug/kg*	04/07/11 08:13PM MDJ
BIS(2-ETHYLHEXYL)PHTHALATE	EPA 8270C	312. J ug/kg DRY	214 ug/kg*	04/07/11 08:13PM MDJ
DI-N-OCTYLPHTHALATE	EPA 8270C	ND ug/kg DRY	205 ug/kg*	04/07/11 08:13PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	222. J ug/kg DRY	209 ug/kg*	04/07/11 08:13PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	ND ug/kg DRY	268 ug/kg*	04/07/11 08:13PM MDJ
BENZO(A)PYRENE	EPA 8270C	ND ug/kg DRY	248 ug/kg*	04/07/11 08:13PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	ND ug/kg DRY	242 ug/kg*	04/07/11 08:13PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	187 ug/kg*	04/07/11 08:13PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	ND ug/kg DRY	228 ug/kg*	04/07/11 08:13PM MDJ

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-20 H019-032911-TP13-20 03/30/11 02:51pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
CYANIDE, TOTAL	EPA 9010/9014	4.95 mg/kg DRY	2.99 mg/kg	04/07/11 04:30PM JG
TOTAL SOLIDS PERCENT	SM 2540G	83.62 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.133 mg/kg*	04/08/11 03:01PM PG
ARSENIC	EPA 6010C	4.69 mg/kg DRY	0.798 mg/kg*	04/08/11 03:01PM PG
BARIUM	EPA 6010C	148 mg/kg DRY	0.0335 mg/kg*	04/08/11 03:01PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0167 mg/kg*	04/08/11 03:01PM PG
CHROMIUM	EPA 6010C	24.8 mg/kg DRY	0.153 mg/kg*	04/08/11 03:01PM PG
LEAD	EPA 6010C	68.2 mg/kg DRY	0.475 mg/kg*	04/08/11 03:01PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	0.983 mg/kg*	04/08/11 03:01PM PG
MERCURY	EPA 7471A	0.344 mg/kg DRY	0.0370 mg/kg*	04/08/11 11:33AM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	2020 J ug/kg DRY	217 ug/kg*	04/07/11 08:38PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	1090 J ug/kg DRY	211 ug/kg*	04/07/11 08:38PM MDJ
ACENAPHTHYLENE	EPA 8270C	921. J ug/kg DRY	172 ug/kg*	04/07/11 08:38PM MDJ
ACENAPHTHENE	EPA 8270C	8480 ug/kg DRY	181 ug/kg*	04/07/11 08:38PM MDJ
FLUORENE	EPA 8270C	6460 ug/kg DRY	203 ug/kg*	04/07/11 08:38PM MDJ
PHENANTHRENE	EPA 8270C	62800 ug/kg DRY	230 ug/kg*	04/07/11 08:38PM MDJ
ANTHRACENE	EPA 8270C	18200 ug/kg DRY	113 ug/kg*	04/07/11 08:38PM MDJ
FLUORANTHENE	EPA 8270C	118000 ug/kg DRY	356 ug/kg*	04/07/11 08:38PM MDJ
PYRENE	EPA 8270C	117000 ug/kg DRY	318 ug/kg*	04/07/11 08:38PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	54200 ug/kg DRY	323 ug/kg*	04/07/11 08:38PM MDJ
CHRYSENE	EPA 8270C	52600 ug/kg DRY	361 ug/kg*	04/07/11 08:38PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	46700 ug/kg DRY	297 ug/kg*	04/07/11 08:38PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	46200 ug/kg DRY	332 ug/kg*	04/07/11 08:38PM MDJ
BENZO(A)PYRENE	EPA 8270C	49700 ug/kg DRY	275 ug/kg*	04/07/11 08:38PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	20600 ug/kg DRY	237 ug/kg*	04/07/11 08:38PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	11800 ug/kg DRY	280 ug/kg*	04/07/11 08:38PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	21500 ug/kg DRY	211 ug/kg*	04/07/11 08:38PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	1360 mg/kg DRY	287 mg/kg	04/07/11 10:14PM RRS

Serial Number: 1729531

Thomas J. Hines, President

QC Laboratories

Analytical Report

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

Sample Number **Sample Description** **Samp. Date/Time/Temp** **Sampled by**
L3704561-21 H019-032911-HA22-21 03/30/11 02:56pm NA F Customer Sampled
Received Temp: 35 F **Iced (Y/N):** Y

Parameter	Method	Result	RLs	Test Date, Time, Analyst
GENERAL CHEMISTRY				
TOTAL SOLIDS PERCENT	SM 2540G	20.80 %	0.01000 %	04/04/11 04:05PM JEG
METALS				
SILVER	EPA 6010C	ND mg/kg DRY	0.534 mg/kg*	04/08/11 03:04PM PG
ARSENIC	EPA 6010C	32.5 mg/kg DRY	3.21 mg/kg*	04/08/11 03:04PM PG
BARIUM	EPA 6010C	111 mg/kg DRY	0.135 mg/kg*	04/08/11 03:04PM PG
CADMIUM	EPA 6010C	ND mg/kg DRY	0.0673 mg/kg*	04/08/11 03:04PM PG
CHROMIUM	EPA 6010C	64.9 mg/kg DRY	0.615 mg/kg*	04/08/11 03:04PM PG
LEAD	EPA 6010C	221 mg/kg DRY	1.91 mg/kg*	04/08/11 03:04PM PG
SELENIUM	EPA 6010C	ND mg/kg DRY	3.95 mg/kg*	04/08/11 03:04PM PG
MERCURY	EPA 7471A	2.24 mg/kg DRY	0.149 mg/kg*	04/08/11 11:39AM RBK
GAS CHROMATOGRAPHY MASS SPECTROMETRY; SEMI-VOLATILES				
NAPHTHALENE	EPA 8270C	ND ug/kg DRY	174 ug/kg*	04/07/11 09:04PM MDJ
2-METHYLNAPHTHALENE	EPA 8270C	ND ug/kg DRY	170 ug/kg*	04/07/11 09:04PM MDJ
ACENAPHTHYLENE	EPA 8270C	ND ug/kg DRY	139 ug/kg*	04/07/11 09:04PM MDJ
ACENAPHTHENE	EPA 8270C	ND ug/kg DRY	145 ug/kg*	04/07/11 09:04PM MDJ
FLUORENE	EPA 8270C	ND ug/kg DRY	163 ug/kg*	04/07/11 09:04PM MDJ
PHENANTHRENE	EPA 8270C	567. J ug/kg DRY	185 ug/kg*	04/07/11 09:04PM MDJ
ANTHRACENE	EPA 8270C	144. J ug/kg DRY	91.2 ug/kg*	04/07/11 09:04PM MDJ
FLUORANTHENE	EPA 8270C	1230 J ug/kg DRY	287 ug/kg*	04/07/11 09:04PM MDJ
PYRENE	EPA 8270C	1290 J ug/kg DRY	256 ug/kg*	04/07/11 09:04PM MDJ
BENZO(A)ANTHRACENE	EPA 8270C	635. J ug/kg DRY	260 ug/kg*	04/07/11 09:04PM MDJ
CHRYSENE	EPA 8270C	702. J ug/kg DRY	290 ug/kg*	04/07/11 09:04PM MDJ
BENZO(B)FLUORANTHENE	EPA 8270C	952. J ug/kg DRY	238 ug/kg*	04/07/11 09:04PM MDJ
BENZO(K)FLUORANTHENE	EPA 8270C	548. J ug/kg DRY	267 ug/kg*	04/07/11 09:04PM MDJ
BENZO(A)PYRENE	EPA 8270C	615. J ug/kg DRY	221 ug/kg*	04/07/11 09:04PM MDJ
INDENO(1,2,3-CD)PYRENE	EPA 8270C	279. J ug/kg DRY	190 ug/kg*	04/07/11 09:04PM MDJ
DIBENZ(A,H)ANTHRACENE	EPA 8270C	ND ug/kg DRY	225 ug/kg*	04/07/11 09:04PM MDJ
BENZO(G,H,I)PERYLENE	EPA 8270C	288. J ug/kg DRY	170 ug/kg*	04/07/11 09:04PM MDJ
GAS CHROMATOGRAPHY				
DIESEL RANGE ORGANICS	EPA 8015B	ND mg/kg DRY	1150 mg/kg	04/07/11 10:47PM RRS

L3704561-2 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

L3704561-3 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by

Thomas J. Hines, President

Serial Number: 1729531

nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-4 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-5 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-6 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-7 :
For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-8 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-10 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-11 :
For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-13 :
For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

Thomas J. Hines, President

Account No: C00469, SOIL SAFE, INC. SALEM **P.O. No:** H019 **Inv. No:** 1293998
Project No: C00469, SOIL SAFE, INC. SALEM **PWSID No:**

L3704561-14 :
For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-15 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-17 :
For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-20 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

For the 8270C fraction, a dilution was required to be performed on this sample because of the sample matrix and/or interferences by nontarget compounds. The surrogate recoveries may have been impacted. The RLs have been adjusted to reflect the dilution.

L3704561-21 :
For method 8015B DRO a dilution was performed. The surrogate recovery may have been impacted. The reporting limits (RLs) have been adjusted to reflect the dilution.

QUALIFIERS: For metals parameters;"B" indicates a value that is > than the MDL but < than the laboratory quantitation limit. For Organics parameters; "B"is when the compound is found in the blank as well as in the sample;"J"indicates a value that is > than the MDL but < than the lowest standard, it is also used to indicate that a compound is tentatively identified in a library search;"E"(estimated) is when a compound exceeded the calibration range;"N" presumptive evidence of a compound; "D" is when a dilution was required.

Notes:
- A result of "ND" indicates the concentration of the analyte tested was either not detected or below the RLs.
- Definitions: ND=not detected; NEG=negative; POS=positive; COL=colonies; RLs=laboratory reporting limits; L/A=laboratory accident; TNTC=too numerous to count
- A result marked with "DRY" indicates that the result was calculated and reported on a dry weight basis.
- All analysis, except field tests are conducted in Southampton, PA unless otherwise identified.
- The test"pH lab"is analyzed upon receipt at the laboratory, the result will not be suitable for regulatory purposes.
- The reported results relate only to the samples.
- QC NELAP ID's:PA 09-00131,NJ PA166,FL E87954,NY 11223,CT PH-0768,DE PA-018,KY 90228,MD 206,EPA PA00018.Bioassay:PA 09-03574,NJ PA034,FL E87953,KS E10373,SC 89021001.
- QC STATE ID's:Wind Gap,NJ PA001,PA 48-01334;E RUTHERFORD NJ02015;Vineland NJ06005; Reading PA 06-03543.
- All samples are collected as "grab" samples unless otherwise identified.
- MCL= is the EPA recommended "maximum contaminant level" for a parameter. PLs=customer specific permit limits.
- The test results meet all requirements of NELAC unless otherwise specified.
- The report shall not be reproduced except in full without the written consent of the laboratory.

* - The "RLs" represents a reporting/quantitation limit. When an "*" is present in the column identified as the "RLs", it is being reported as a Method Detection Limit (MDL).

Thomas J. Hines, President

SOIL SAFE, INC. SALEM
378 ROUTE 130 SOUTH
LOGAN TOWNSHIP, NJ 08085
Phone: (856)467-8030
FAX: (856)467-0515

QC LABORATORIES
LOGIN CHAIN OF CUSTODY REPORT (1n01)
Apr 02 2011, 07:30 am

Login No: L3704561 (Verbal)
Project: C00469
Job ID:
PWSID:

Laboratory Sample Number	Sample ID	Sample Date and Time	Rcvd Date	H/C Due Date	Rush	Tier	Locator
04/08/11 SOIL	PAH'S,EPA METHOD 8270						
04/08/11 SOIL	RCRA METALS						
04/08/11 SOIL	SILVER						
04/08/11 SOIL	ARSENIC						
04/08/11 SOIL	BARIUM						
04/08/11 SOIL	CADMIUM						
04/08/11 SOIL	CHROMIUM						
04/08/11 SOIL	MERCURY						
04/08/11 SOIL	LEAD						
04/08/11 SOIL	SELENIUM						
04/08/11 SOIL	TOTAL SOLIDS PERCENT						

Signature: _____

Date: _____

QC Laboratories

1205 Industrial Blvd.
Southampton, PA 18966-0514
Phone: 215-355-3900
Fax: 215-355-7231

CHAIN OF CUSTODY

Page 1 of 3

Lab LIMS No: L3704561

Client/Acct. No. Soil Safe

Address 378 US Route 130 S

City/State/Zip Logan Twp, NJ

Phone/Fax 856 467 8031

Client Contact Marcia Ledford

Bill to/Report to: (if different)

Sampling Site Address: (if different) Railway Ave

P.O. No. H019

QC Contact Rich

LAB USE ONLY:

___ Ascorbic/HCl Vials # ___ HCl Vials
___ $Na_2S_2O_3$
___ Na OH/Zn acetate pH
___ HNO_3 pH
___ H_2SO_4 pH
___ NaOH pH
#27 Unpreserved 10 glass 7 glass VP
___ Hcl pH 10 glass VP
___ Temp control 35°F ID# QC/KAD II

MATRIX CODES

DW: DRINKING WATER
GW: GROUND WATER
WW: WASTEWATER
SO: SOIL
SL: SLUDGE
OIL: OIL
SOL: NON SOIL SOLID
MI: MISCELLANEOUS
X: OTHER

PROJECT H019

FIELD ID	Collection Date	Collection Military Time	GRAB	COMP	Matrix Code	Number of Containers Total	H_2SO_4	HCl	Vials	HNO_3	NaOH	ZnAc	Unpre	Bact	ANALYSIS REQUESTED	Field pH, Temp (C or F), DO, Cl_2, S. Cond. etc.
H019-032911-TP18-01	3/29/11	855	X		SO	1							1		RCRA Metal	
H019-032911-TP17-02	3/29/11	912	X		SO	1							1		RCRA Metal PAH TPHDRO	
H019-032911-TP16-03	3/29/11	935	X		SO	1							1		RCRA Metal PAH TPHDRO	
H019-032911-TP15-04	3/29/11	951	X		SO	1							1		RCRA Metal PAH TPHDRO	
H019-032911-TP11-05	3/29/11	1011	X		SO	1							1		RCRA Metal PAH TPHDRO	
H019-032911-TP10-06	3/29/11	1026	X		SO	1							1		RCRA Metal PAH TPHDRO	
H019-032911-TP09-07	3/29/11	1041	X		SO	1							1		RCRA Metal PAH	
H019-032911-TP19-08	3/29/11	1103	X		SO	1							1		RCRA Metal PAH TPH DRO	
H019-032911-TP07-09	3/29/11	1126	X		SO	1							1		RCRA Metal PAH	
H019-032911-TP05-10	3/29/11	1203	X		SO	1							1		RCRA Metal PAH TPHDRO Cyanide	

SAMPLED BY: (Name/Company)
AI Free
EastStar Environmental

Verbal/fax data due: ___/___/___
Hardcopy due: ___/___/___

Report Format: ☐ Standard ☐ Forms ☐ Standard + QC ☐ NJ Reduced ☐ Disk

Please call for pricing and availability on rush (<14-21 day) turnaround and on all but standard format.

Field Parameters Analyzed By:
Sig:
Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

	RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME
1		3/31/11	1420		3/31/11	14:20
2		4/1/11	13:23		4/1/11	1323
3		4/1/11	1545		4/1/11	1545
4		4/1/11	1826		4/1/11	1826
5						

DELIVERY METHOD: ☐ QC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER

Custody Seal Number

COMMENTS: 36F VP Fed Ex
7 day TAT

Hazardous: yes (no)

For example to aid completion, see reverse side.

FINAL REPORT

QC Laboratories

1205 Industrial Blvd.
Southampton, PA 18966-0514
Phone: 215-355-3900
Fax: 215-355-7231

CHAIN OF CUSTODY

Page 2 of 3

Lab LIMS No: L3704961

Bill to/Report to: (if different)

Client/Acct. No. SoilSafe

Address 378 US Route 130 S

Sampling Site Address: (if different)
Railway Ave

City/State/Zip Logan TWP, NJ

Phone/Fax 856 467 8031

P.O. No. H019

Client Contact Marcia Ledford

QC Contact RICH

LAB USE ONLY:

___ Ascorbic/HCl Vials # ___ HCl Vials
___ $Na_2S_2O_3$
___ Na OH/Zn acetate pH
___ HNO_3 pH
___ H_2SO_4 pH
___ NaOH pH
36 Unpreserved 10-250gl 10 W split 10-splitcup
___ Hcl pH
___ Temp control 35°F ID# DC Lead II

MATRIX CODES

DW: DRINKING WATER
GW: GROUND WATER
WW: WASTEWATER
SO: SOIL
SL: SLUDGE
OIL: OIL
SOL: NON SOIL SOLID
MI: MISCELLANEOUS
X: OTHER

LAB USE ONLY

PROJECT / FIELD ID	Collection Date	Collection Military Time	GRAB	COMP	Matrix Code	Number of Containers: Total	H_2SO_4	HCl	Vials	HNO_3	NaOH	ZnAc	Unpre	Bact	ANALYSIS REQUESTED	Field pH, Temp (C or F), DO, Cl_2, S. Cond. etc.
H019-0329N-TP08-11	3/29/30	1222 ~~1122~~	X		SO	1							1		RCRA Metl PAH	
H019-032911-TP12-12	3/29/30	~~1242~~ 1342	X		SO	1							1		RCRA Metl PAH	
H019-032911-TP12A-13	3/29/30	~~1242~~ 1342	X		SO	1							1		RCRA Metl PAH	
H019-032911-TP06-14	3/29/30	~~1255~~ 1255	X		SO	1							1		RCRA Metl PAH	
H019-032911-TP03-15	3/29/30	1317	X		SO	1							1		RCRA Metl PAH TPHDRO	
H019-032911-TP01-16	3/29/30	1343	X		SO	1							1		RCRA Metl PAH Cyanide	
H019-032911-TP02-17	3/29/30	1400	X		SO	1							1		RCRA Metl PAH Cyanide	
H019-032911-TP02A-18	3/29/30	1423	X		SO	1							1		RCRA Metl PAH	
H019-032911-TP14-19	3/29/30	1431	X		SO	1							1		RCRA Metl SVOC	
H019-032911-TP13-20	3/29/30	1451	X		SO	1							1		RCRA Metl PAH TPH Dro Cyanide	

SAMPLED BY: (Name/Company)
Al Free
EastStar Env

Verbal/fax data due: ___/___/___
Hardcopy due: ___/___/___

Report Format: ☐ Standard ☐ Forms ☐ Standard + QC ☐ NJ Reduced ☐ Disk

Please call for pricing and availability on rush (<14-21 day) turnaround and on all but standard format.

Field Parameters Analyzed By:
Sig:
Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

	RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
1		3/31/11	1420	1	3/31/11	1420
2		4/1/11	1323	2	4/1/11	1323
3	M. Wall	4/1/11	1545	3	4/1/11	1545
4	QC	4/1/11	1810	4	4/1/11	1810
5				5		

DELIVERY METHOD: ☐ QC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER ___

Custody Seal Number

COMMENTS: 36F / J flag MCW
1 day TAT

Hazardous: yes / no

For example to aid completion, see reverse side.

FINAL REPORT

QC Laboratories

1205 Industrial Blvd.
Southampton, PA 18966-0514
Phone: 215-355-3900
Fax: 215-355-7231

CHAIN OF CUSTODY

Page 3 of 3

Lab LIMS No: L3704561

Bill to/Report to: (if different)

Client/Acct. No. Soilsafe

Address 378 US Route 130 S

Sampling Site Address: (if different) Rahway Arch

City/State/Zip Logan Twp, NJ

Phone/Fax 856 467 8031

P.O. No. 4019

Client Contact Marcia Ledford

QC Contact Rich

LAB USE ONLY:

___ Ascorbic/HCl Vials # ___ HCl Vials
___ $Na_2S_2O_3$
___ Na OH/Zn acetate pH
___ HNO_3 pH
___ H_2SO_4 pH
___ NaOH pH
3 Unpreserved 1-250gl 1 W split 1 split cup
___ Hcl pH
___ Temp control 35F ID# QC(KAD) IT

MATRIX CODES

DW: DRINKING WATER
GW: GROUND WATER
WW: WASTEWATER
SO: SOIL
SL: SLUDGE
OIL: OIL
SOL: NON-SOIL SOLID
MI: MISCELLANEOUS
X: OTHER

LAB USE ONLY

PROJECT / FIELD ID	Collection Date	Collection Military Time	GRAB	COMP	Matrix Code	Number of Containers: Total	H_2SO_4	HCl	Vials	HNO_3	NaOH	ZnAc	Unpre	Bact	ANALYSIS REQUESTED	Field pH, Temp (C or F), DO, Cl_2, S. Cond. etc.
H019-03911-HA22-21	3/29 (30)	1456	X		SO	1							1		RCRA Meth PAH TPHDRO	

SAMPLED BY: (Name/Company)
Al Free
EastStar Env

Verbal/fax data due: ___/___/___
Hardcopy due: ___/___/___

Report Format: ☐ Standard ☐ Forms ☐ Standard + QC ☐ NJ Reduced ☐ Disk

Please call for pricing and availability on rush (<14-21 day) turnaround and on all but standard format.

Field Parameters Analyzed By:
Sig:
Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

	RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME
1		3/31/11	1420		3/31/11	1420
2		4/1/11	1323		4/1/11	1323
3		4/1/11	1545		4/1/11	1545
4		4/1/11	1810		4/1/11	1810
5						

DELIVERY METHOD: ☐ QC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER___

Custody Seal Number

COMMENTS:
7 day TAT
36F/v FedEx NBW

Hazardous: yes / no

For example to aid completion, see reverse side.

FINAL REPORT

QC Laboratories

1205 Industrial Highway, Southampton, PA 18966

VINELAND

Inter-Laboratory Transport Form: VN040111

Coolers for Transport to Southampton from VINELAND

To be completed by person sealing coolers					Southampton use only	
Cooler ID No.	Custody Seal No.	Date	Time	Initials	Temp °F	Iced Y/N
18	040111-1	4-01-11	16:02	DMC	39.5	Y
dairy 915	-2	"	"	"	40.2	Y
Food 666	-3	"	"	"	32.1	Y
micro 107	-4	"	"	"	31.7	Y
00	-5	"	"	"	35	Y
500	-6	"	"	"	36.8	Y
24	-7	"	"	"	35.4	Y
3WG	-8	"	"	"	37.6	Y
608	-9	"	"	"	37.3	Y

Please Note the Following:

Individual sample chains of custody must accompany this form.

Once a cooler is sealed, custody seals may not be broken until samples are received at the Southampton laboratory.

Southampton Laboratory use only

Custody Seals intact upon receipt? Y / N Initials: LD

List ID of any seal found broken upon receipt below:

A full legal signature is required. Record all times in military time (24-HR Clock; 4:00 PM=1600)

Relinquished by:	Date:	Time:		Received by:	Date:	Time:
[signature]	4-1-11	18:10		[signature]	4/1/11	1810
Relinquished by:	Date:	Time:		Received by:	Date:	Time:
Relinquished by:	Date:	Time:		Received by:	Date:	Time:
Relinquished by:	Date:	Time:		Received by:	Date:	Time: